

RICE UNIVERSITY

TRAVERSING THE EDGE:
The Seawall in Galveston, Texas

by

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Abstract

Film

Through the use of repetition, specifically circular and linear elements, unity is established in the Surrealist film, *Un Chien Andalou*. These two repeating forms, occurring in differing scales and orientations, join together what otherwise appear to be varied images and narrative events. A field of lines and circles is established, creating an ordering device for the film, which, in turn, strengthens the theme. Repetition unifies disparate things, and provides variety and density.

Site

The Seawall in Galveston, Texas is similar to my previous analyses of repetition in film as it parallels the fragmentary experience of the films. The Seawall is usually experienced in pieces, as few traverse the entire ten miles in one visit. Even though film and the Seawall present themselves linearly, the pieces of each provide for experiences that are quite similar to one another, negating the need to explore the whole. Thus, the linear experience is supplemented by the repetitive fragments, which individually create the possibility for reading the entire experience.

Intervention

The purpose of the design is to transform the Seawall, an edge condition, into a habitable space by increasing the density of elements along that edge. This is achieved through a system of interventions that intensifies the awareness of the latent repetitive elements and orders of the context. An infrastructure of six components is implemented in a response to, and as an elaboration of, the existing repetitive conditions. Also important are anomalies, which are larger scale interventions based on site conditions that share many of the characteristics of the components.

Three sites have been chosen to demonstrate the possibilities for the city's promenade through the deployment of this system. Each one demonstrates the impact of the system in response to the specific recurring contextual conditions. The sites also illustrate the repetition of the components and their variations in relation to one another. Through the use of repetitive components and anomalies, their specific characteristics, and the accompanying rules of deployment, different layerings of patterns are established. These patterns, along with the order and rhythm that are produced, have an obscure rather than obvious presence since the components (and the existing elements along the Seawall) are distributed in a varied and diverse manner. This development of repetition in relation to the elements is strikingly similar to that which is found in *Un Chien Andalou*.

Overall, the system is not a master plan, but rather a strategy for the accumulation and build-up of components that transform the flat site, and adds variety to Galveston's most spontaneous space.

Repetition

Repetition is fundamental to human experience; it surrounds us, consumes us, and invades our lives on a daily basis. Repetition is found in the mass production techniques of our factories, in the continuous beat of music, and in the omnipresent Big Mac sandwich. A 21 gun salute has more impact than a single firing. Repetition is also a process by which we learn — just look at Pavlov's study of canine behavior for a convincing example.

Our cells are always dying and replacing themselves. In fact, every six to eight years we entirely change bodies. Even though we replicate a new set of cells every time, we maintain our exact identity. Our existence is dependent not on that earlier set of cells, but on the present grouping. We are our own repetitions. By beginning again, we have continued — this continuance has no effect on the past we have already lived; as our being dead in the future does not affect the fact that we are alive now.

Life takes its character and tone from repetition. Events that are capable of being repeated or insist on being repeated are considered lower or more boring. However, extraordinary, unrepeatable experiences account for the interesting material of our life histories. We tend to like the uniqueness of experience and identity, after all, we only live "once", do everything "once" and have a "first" love. Events whose repetition is not extraordinary do not seem to be worth recording or noticing. However, some things that are repeated are not boring, and can be entirely independent of previous experiences. For instance, we do not find the cycle of the sun rising and setting dull, possibly because we have a rhythmic sympathy for the way in which we function. The sun is both important and dependable; it is not exhaustible. Novelty is exhaustible.

The conventional view of repetition as *repetitious* is short-sighted, because it can also be viewed as *repetitive*. The two terms are interchangeable and seem to be an argument in semantics, but here a distinction must be made. The two terms and their thresholds will be defined as follows:

Repetitious

when a word, percept or experience is repeated with less impact at each recurrence; repeated to no particular end, out of a failure of invention or sloppiness of thought (Kawin 4).

Repetitive

when a word, percept, or experience is repeated with equal or greater force at each occurrence (Kawin 4).

Similarly, repetition can be further divided into *constructive* and *destructive*:

Constructive

Sigmund Freud observed not only the automatic, destructive, and death-serving effects of repetition. He also saw that repetition can operate in the interests of the pleasure principle:

Nor can children have their pleasurable experiences repeated often enough, and they are inexorable in their insistence that repetition shall be an identical one...Novelty

is always the condition of enjoyment. But children never tire of asking an adult to repeat a game that he has shown them or played with them, till he is too exhausted to go on. And if a child has been told a nice story, he will insist on hearing it over and over again rather than a new one; and he will remorselessly stipulate that the repetition shall be an identical one and will correct any alterations of which the narrator may be guilty...Repetition, the re-experiencing of something identical, is clearly in itself a source of pleasure (Kawin 18-19).

Constructive repetition has the ability to emphasize, interweave, lyricize, and unify. Kawin asserts that repetition is the key to our experience, and that it may become the key to our expression of experience. "Man cannot utter it, but he can utter around it. He can, through repetition, make it manifest" (Kawin 8). Through repetition, one is brought within reach of a nonverbal state of apprehension. Similarly, television advertisements depend almost entirely on the repetition of slogans or songs in order to turn this "emphasis" into experience; that is, it becomes second-nature to the viewer. One can only emphasize until emphasis communicates.

In literature (and also art), terms are often repeated from chapter to chapter to provide for more than just parallelism; often new details are added to *emphasize* and *lyricize* certain aspects of the story. Observations are often repeated as a means by which to rediscover them. However, so as to avoid being repetitious, *variations* are often employed so that we are free to experience each repetition as something new. In poetry this concept is seen in the use of rhyme and alliteration — the repetition of sound, no matter what its "meaning" is the substance of poetry.

In film, a prime example of this can be shown in the montages of director and film theorist, Sergei Eisenstein. Using the dialectical juxtaposition of conflicting shots, repeated parts of scenes, and by stretching time for emphasis, Eisenstein builds his montage. Repetition's power to *emphasize* a point can be seen clearly in Eisenstein's theory of film editing:

By what, then, is montage characterized and, consequently, its cell — the shot?
By collision. By the conflict of two pieces in opposition to each other. By conflict.
By collision (Kawin 46).

Another way of saying that repetition emphasizes and complicates is to say that it makes intense and solid through persistence. Repeated enough, a word, idea, phrase, or image will "come to dominate us to such an extent that are only defenses are to concede its importance or turn off the stimulus completely" (Kawin 50). Here the art lies in the ability to carry the audience while the repetitions accumulate, dominate them, and relax the build right before it becomes unbearable.

Destructive

When repetition is used incorrectly, it can actually become non-dynamic and have a destructive effect. An outright use of repetition can strengthen, but unsure repetition can lead to losing an audience's attention and enervation of one's material. One of the principle characteristics of useless repetition is that it can lock an artistic work or even a life into an unfulfillable compulsive cycle. According to Freud, on a psychotherapeutic level, this compulsion acts in the service of the most immediate and inaccessible form of memory, forcing us not to remember but to relive unmastered material. We may also find ourselves repeating, rather than remembering, traumatic experiences outside the therapeutic context. We are often forced to relive these dead and rigid aspects of our lives rather than live creatively, in freedom, in advancing time (Kawin 13).

To a greater degree, habit is the most destructive effect of repetition — doing things over and over,

each time with less energy and less interest, almost to the point of anesthesia. In literature or film, this consists of the cliché we do not even notice, the element that forces boredom to set upon us. Repetition without insight or excitement creates routine, takes the life out of the living, and thus can not cause us pain. The idea, therefore, is to make our lives routine, full of habits, so that we will not feel anything. The skin over our senses is thickened, and we become numb to experience.

Repetition operates to remove the emotional content from a mental experience. In memory, repetition is a neutralizer, habituator and falsifier. Attempting to repeat an experience in memory makes accurate re-experience impossible, and falsification occurs. For instance, an artist describes a scene in his head and proceeds to call it up many times before he can find the proper words to describe it. By that time, the artist is lucky if he can at all remember the scene as he first conceived it. More likely, what he has substituted for its reality on paper has also taken the place of the fantasy in his head. The falsification of reality in art or memory comes stems from the attempt at repetition, the act of voluntarily remembering; by trying to “perceive” the event again, we change it. This process of substitution is the basis for art; the artist can “remove” himself from the event. Oftentimes, the better the substitution, the better the art; also, the worse the chances for the accurate survival of the original experience.

* * * *

For both this investigation and the accompanying design proposal, repetition is studied in terms of its being repetitive and constructive, both equally good qualities. Repetition is also employed as an aesthetic device. Beyond establishing familiarity and order, repetition can, with the use of repetitive elements, unify disparate ideas and forms. And by increasing the variations of the elements, variety and density are added to the existing field. It is within this consistent arena that anomalies and differences become much stronger, inserting their unique characteristics.

By concentrating on the structure of repetition and its inherent properties, patterns are revealed which may be grouped or influenced by other patterns or repetitions. In this manner, very distinct and new relationships are discovered, straying from the “boring” realm of literal, one-element repetitions or similarly, mass production.

Both artwork (Andy Warhol’s prints and paintings) and film (the *Ballet Mecanique* and *Un Chien Andalou*) are analyzed to discover the intrinsic aesthetic values and uses of repetition.

Repetition in Film: a look at form and structure

In a properly projected film, no frame repeats. In fact, a film in which each frame was identical would not move. It is the near-repetition of similar frames which communicates movement, and thus, life. It is interesting to note that while examining a yard of film, the frames do indeed look identical, and one can not observe the movement, but may infer it. Also, one can not see how slight changes act on each other or feel the movement they produce until the film is properly projected.

If an identical picture does return later in the presentation, it is an entirely new piece of celluloid and has no effect on the metaphysical position of the earlier frame. In the case of a loop, the identical frame recurs later in time, and therefore is a different time-space unit received by a later, aged audience. The frame is completely removed from the art-moment of its earlier appearance. However, the frame can have the effect of putting the audience back in that first time. In order for film to remain coherent, and for an audience to realize where it is, the images must repeat with slight or radical variation, from instant to instant.

Because film form is a system — an unified set of related, interdependent elements — principles must be established to help create the relationships among the parts. These principles may be a set of rules or laws.

The form of film can not be only composed of repetitions because AAAAAA becomes boring and loses the audience's attention. Noted film artist and critic, Peter Kubelka, states that this regular repetition of the same element is the basis for the whole universe, and that practically everything is a multiple of equal elements which repeat. Furthermore, successful repetition depends on both the inherent interest of the recurring unit and on its context. Examples of equal element repetitions are: a heartbeat, walking, and breathing — are all 1, 2, 1, 2 rhythms. Also, film itself is divided into a one-beat rhythm; image after image, it's already there when you make the film strip. A film projector also has a regular speed. Kubelka's theory can be summarized as follows, "one rhythm or beat is the most important — all the others are then variations or complements" (Kubelka 144).

In order to keep an audience's attention, there is a need for variations and changes, no matter how seemingly small. These differences are a fundamental principle of film form. Form needs its stable "background" of similarity and repetition, however, it also demands that differences be created.

Formal repetitions are commonly called *motifs*, which are any significant repeated element in a film. A motif may be an object, color, place, person, sound, or even a character trait. Motifs can assist in creating parallelism, and our recognition of parallelism provides viewing pleasure.

Motifs are repeated, but seldom exactly. Variations will appear.

Repetition and variation are two sides of the same coin. To notice one is to notice the other. In analyzing films, we ought to look for similarities and differences. Constantly poised between the two, we can point out motifs and contrast the changes they undergo, recognize parallelisms as a repetition, and still spot crucial variations (Bordwell 58).

The principle of development in film is extremely important, and consists of a patterning between similar and differing elements. The pattern ABACA is based not only on the recurring motif of A (a repetition), but also on the varied insertion of B and C (difference). The principle of progression is also seen in the alternation of A with successive letters in alphabetical order. Thus, the principle of development governs the form of the whole series.

In order to analyze a film's (pattern of) development, a segmentation is constructed.

A segmentation is simply a written outline of the film that breaks it into its major and minor parts, with the parts marked by consecutive numbers or letters (Bordwell 59).

Another way to analyze a film's development is to compare the beginning with the ending. In this manner, we can start to understand the overall pattern of the film.

The constant interplay between similarity and difference, repetition and variation, leads the viewer to an active, developing awareness of the film's formal system. It may be handy to visualize the film's development in static terms, but we ought not to forget the formal development is a *process* (Bordwell 59).

A film has unity when all of the relationships we perceive within a film are clear and economically woven. A unified film is referred to as "tight" because there seem to be no gaps in the formal relationships. Every element present has a specific set of functions, similarities and differences are determinable, the form develops logically, and there are no extraneous elements.

These visual elements and their relationships (i.e. as seen in a ABACA segmentation), are only partially responsible for the unity of a film. Also of great importance is the film's *cadence*, which is composed of both the internal and external "rhythms" that impart to the film much of its quality and character. The cadence describes how the scenes, and the visual elements within them, work in conjunction or disjunction with one another. The internal rhythm consists of the inherent quality of movement in the scene, in addition to the mood and impact of the performance. This rhythm is determined by everything within the scene. On the other hand, the external rhythm of a film depends largely on the time each scene runs (Bobker 142).

The cadence that is established primarily by the film editor can be more commonly described as the film's *pace* — often "poetic", "fast-moving" or with a "tremendous punch." Film critic Graham Greene states that the wave of rhythm "must be planned, to afford variety without breaking continuity" (Parkinson 392) and,

it [the rhythm "wave"] should break, not once when it is too late to revive the battered eyesight, but at regular intervals — like the recurrence of the great ninth wave, which leaves its spray the farthest up shore" (Parkinson 392).

In other words, a film should begin slowly and gradually increase in the speed of its episodes/scenes until the climax, but also allowing for "breathing spaces" — slower moments that enable the viewer's mind to stay active, thus preventing sensory overload.

Two films, the *Ballet Mecanique* and *Un Chien Andalou*, are analyzed in terms of their form and content. And even though one is a Cubist production, and the other a Surrealist, both serve as excellent examples from which to perceive and understand the varied aesthetic aspects of repetition.

***Ballet Mecanique*: repetition in structure & form**

From 1921 to 1931 there was an explosion in avant-garde filmmaking in Europe that centered itself in Paris. Many of the best films were made by artists who were famous for working in other media, but relished the experimental potential of the new medium, film. These filmmakers rejected the notion that the primary function of the camera was to record external reality. And instead of bowing to the conventional notion of plot, they stressed perception. Their audiences were forced to watch what was happening on the screen; not for its symbolic meaning, but for its visual form and actual patterns of movement. One of the best examples of pure visual form is Cubist artist Fernand Leger's 15 minute *Ballet Mecanique* (1924):

In this medium I worked as I had done before in painting. To create the rhythm of common objects in space and time, to present them in their plastic beauty, this seemed worthwhile, this was the origin of my *Ballet Mecanique* (Kinder 39).

Since the camera was a machine, it had a new capacity for expressing through composition and editing the fragmentation that was an essential element in the new reality of the mechanical age:

The war had thrust me, as a soldier, into the heart of a mechanical atmosphere. In this atmosphere I discovered the beauty of the fragment. I sensed a *new* reality in the detail of the machine, in the common object. I tried to find the plastic value of these fragments of our modern life. I rediscovered them on the Screen in the close-ups of objects, which impressed and influenced me (Kinder 39).

Walter Benjamin also extols the aesthetic virtues of the camera:

By close-ups of the things around us, by focusing on hidden details of familiar objects, by exploring commonplace milieus under the ingenious guidance of the camera, the film, on the one hand extends our comprehension of the necessities which rule our lives; on the other hand, it manages to assure us of an immense and unexpected field of action...Evidently nature opens itself to the camera than opens to the naked eye...Here the camera intervenes with the resources of its lowerings and liftings, its interruptions and isolations, its extensions and accelerations, its enlargements and reductions (Benjamin 236-237).

In *Ballet Mecanique*, the surfaces of common objects are transformed into pure visual form by the mechanical process of film. The images, all set in mechanical motion, can be divided into four categories: abstract forms (geometric shapes — triangles and circles, numbers/letters), machines (gears and pistons), common household objects (bottles and pots), and human beings. A mechanical dance is created out of these images; the series of movements and patterns seems perfectly choreographed. Through the visual and temporal rhythms even human parts seem to take on a machine-like aesthetic.

In a film that describes itself in its introduction as sans scenario, the viewer is only presented the reactions of the rhythmic images, nothing less, nothing more. But in fact, it is the rhythm and the visual patterns that evolve that are the content, the "base line of visual interest on which thematically

dissimilar visual images are strung together like so many variegated beads on a string" (Lawder 136).

Time is never geared to the narrative event. Instead it is experienced through the pure visual happenings, long or short in duration, quick or slow in rhythm, and constantly intercut and interacting with other images of a corresponding and highly contrasting nature.

Structure

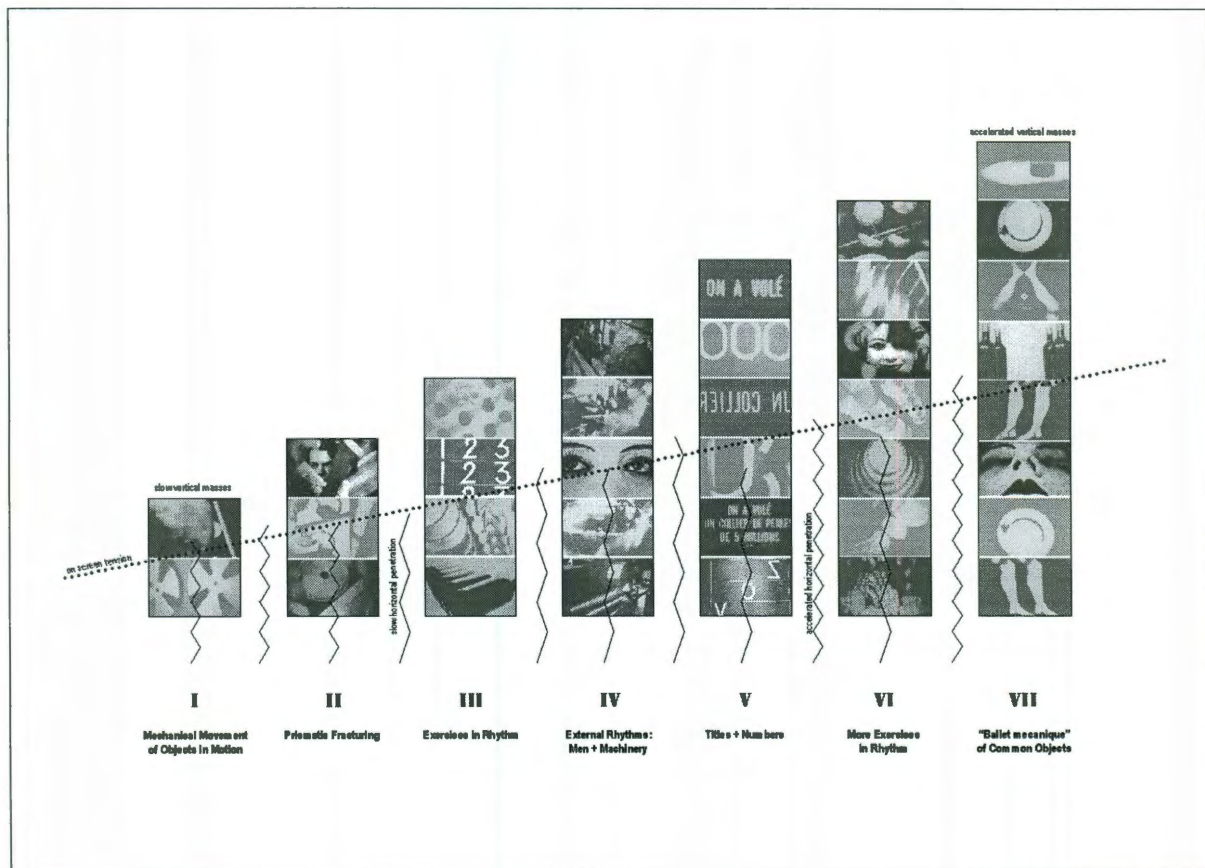
At first, *Ballet Mecanique* seems like a visual assault; objects spin, pump, swing, rotate, and undulate at intense rates. However, after the initial shock has worn off, the viewer can perceive the structural organization as a set of clearly defined units. After all, what is one to expect from an artist whose paintings are so logically constructed? What follows is Leger's own notes from July 1924 on the structure of the film, even though these thoughts are barely perceptible in the finished work:

The film is divided into seven vertical parts. (Close-up, without depth, active surfaces) which go from slow motion to extreme speed.

Each of the parts has its own unity due to the similarity of clusters of object-images which are visually alike or of the same material. That was the goal of construction and it prevents the fragmentation of the film.

To assure variety in each part they are crossed by horizontal penetrations of visually similar forms (color) (Lawder 131).

Leger employs an arithmetic law in another attempt to rigidly construct the film. He states that it is precise as possible. From one end to the other, a certain number of images occur at a certain rate for a prescribed amount of time. For instance, an object is projected at a rhythm of 6 images a second for 30 seconds, 3 images a second for 20 seconds, 10 images a second for 15 seconds, etc. Not only does Leger manipulate the images, but also the viewer's perception of those images. At this point, the viewer's eyes and mind "can't take it anymore". The repeated images' visual power increasingly mounts, only to exhaust itself at the very moment when it becomes unbearable. In this respect, *Ballet Mecanique* exhibits signs of previously-discussed, destructive repetition.

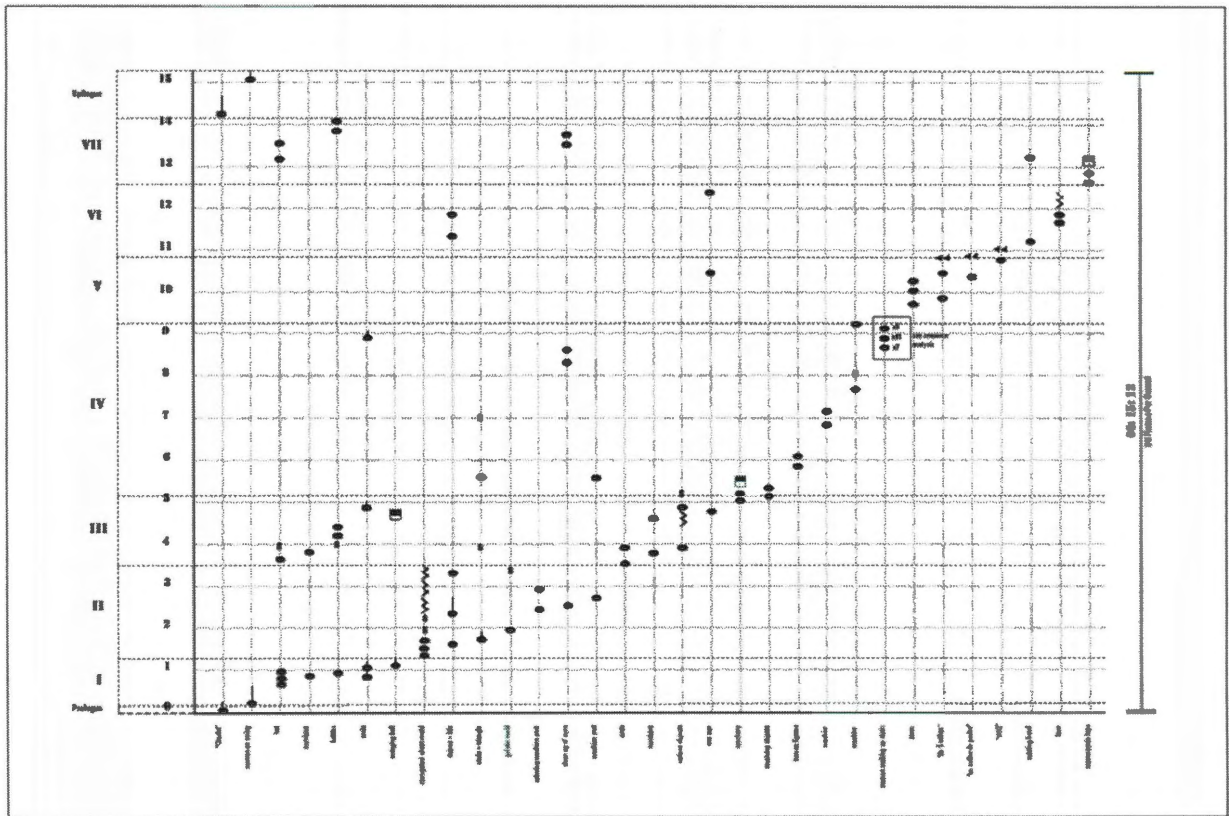


Ballet Mecanique: Structure
 exploration of 3D repetition in "2D" medium

Element Repetition Chart

The everyday objects in *Ballet Mecanique* are enlarged to an archetypical status, constantly repeating, transforming, and interrupting each other. Every image in the film is repeated, either in whole or in part. This replication almost seems like machine reproduction, as stressed by the mechanical aesthetic of the film itself. Many individual motifs (repeated elements) are introduced in rapid succession, only to be brought back at established intervals in different combinations. A definite pattern of development is seen, elements from earlier scenes are reused. Each of the seven segments uses a few of the abstract qualities from the previous segment, employing them in additional ways. In order to perceive the film's repetitions and variations, the viewer must actively seek connections between the motifs. The variations include: a similar shot (possibly a different angle), inverting the image, and "fracturing" the image with the use of a prism.

The prismatic effect is interesting because the object becomes further replicated within the frame. The variations of the object appear to overlap and penetrate one another because the camera's field of vision is shattered. This device was perfectly suited to Leger's Cubist tendencies and ideas concerning vision — perspective is completely destroyed and space is flattened. Furthermore, the shattered image assumes a continuously jerky, mechanical quality. The multiple-image object on screen is truly a Cubist composition; all of the variations move in simultaneous rhythm within the frame.

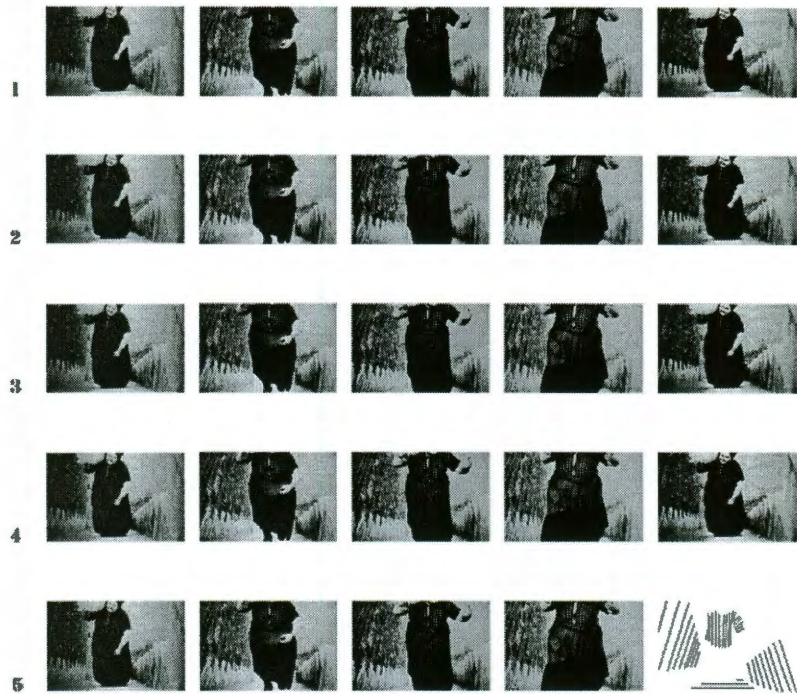


Sequence Analysis: Woman Ascending Staircase

Approximately eight and one-half minutes into the film, a strange sequence occurs. An ordinary woman, carrying a very large load of laundry over her shoulder, is seen ascending stone stairs. This image seems a bit awkward because of the woman's presence within the inhuman, industrial world portrayed in the film. Stranger still is the ascent happens not once, or twice, but a series of times; initially seven times, then eleven, and finally finishing with five times. The woman never reaches the top of the stairs, and after each progression she is returned below to repeat her tiresome task. The washerwoman's function in the film has been described by Leger as "to astonish the public, then to make them slowly uncomfortable, and finally to push the adventure to the point of exasperation" (Lawder 152).

This sequence (or sequences) parallels the experience of the entire film; at the point where destructive repetition is about to set in, the viewer is relieved. The insistent repetition of the washerwoman allows her to succumb to the world of the machine; her movements are executed perfectly each time. The viewer no longer sees her as a character, but rather another one of Leger's visual patterns of movement. She is no longer a human and the narrative possibilities cease to exist. In effect, it is not important where she is going or whether she ever reaches the top. Through the exhausting repetitions, Leger forces the viewer to concentrate on the rhythm of her motion and vertical form — the vertical stripes of her blouse in relation to the horizontal lines of the stairs and the lines of the brick wall to her right.

Because the sequence is repeated so many times without variation, it seems effortless to transgress the subject matter and find these new meanings and relationships. Similar Warhol's *Death and Disaster* series and xeroxing, where each time the viewer is further removed from the original, new information is revealed. Repetition makes solid and intense, emphasizing the object but then moves into/beyond the object.



Ballet Mecanique: Sequence Analysis

exploration of 3D repetition in "2D" medium

***Un Chien Andalou*: repetition of imagery**

When Luis Bunuel and Salvador Dali embarked on the production of the Surrealist film, *Un Chien Andalou*, they wanted to reject conventional expectations and patterns. Bunuel claims that, "Nothing in this film symbolizes anything" (Kinder 42). He explains that he and Dali purposely dismissed any idea or image that was derived from memory, from their cultural pattern, or had any conscious association with earlier ideas or images. They accepted as valid only the representations, that though profoundly moving, had no possible explanation.

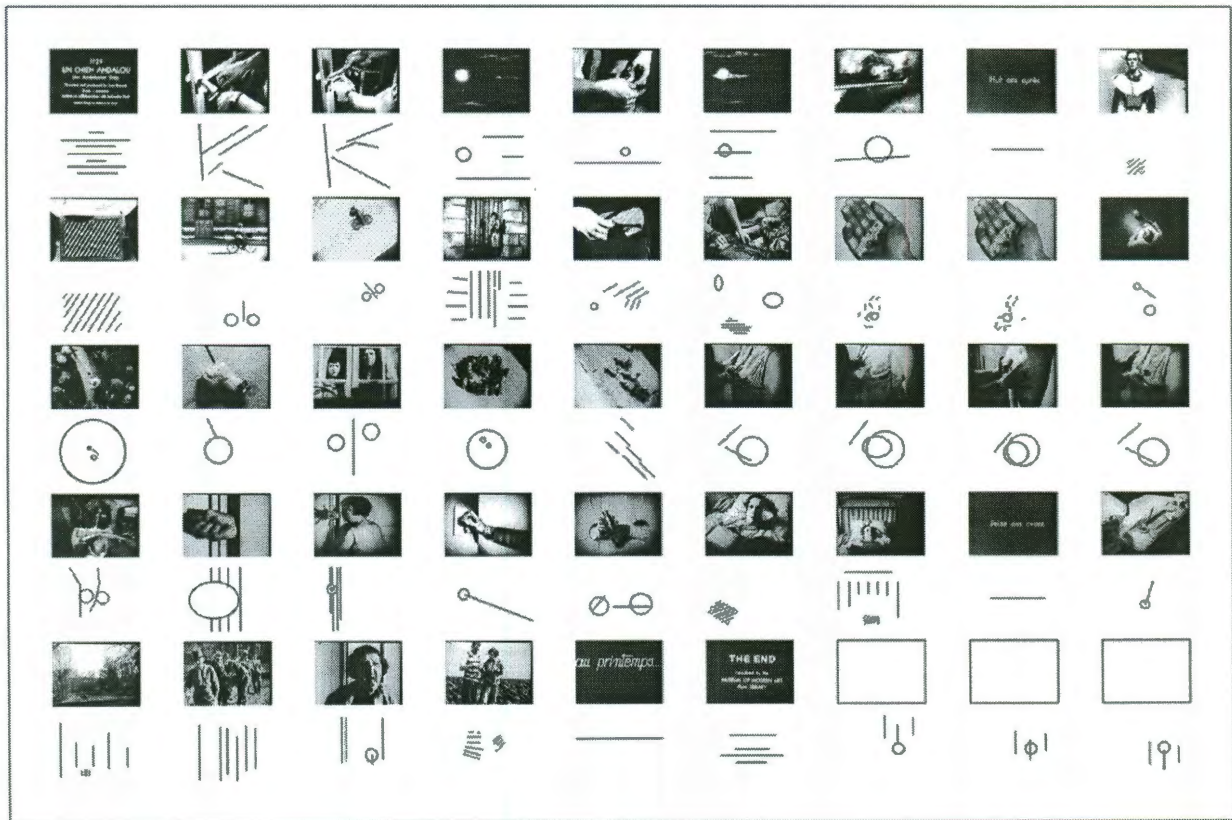
Like the *Ballet Mecanique*, *Un Chien Andalou*, forces an intensification of visual experience. Its different images are rich with association, yet at first do not appear to be visually similar to earlier ones. It is interesting to note that an external pattern is not imposed onto the film. In fact, the repetitive system is internal and it is only with a closer investigation that the primarily visual connections emerge, namely the circle and vertical line. Through the use of these two repetitive elements, the incongruous narrative events and images are united. This association is the basis for the structure of the film, as there is no plot or chronology.

Time in *Un Chien Andalou* is nonlinear. Practically all of the projected titles refer to shifts in time, and therefore do not function as conventional narrative links. This device simultaneously parodies the conventional narrative plot in the literary film and evokes the nonrational time of the dream world. Spaces in the film are also abrupt and dreamlike. Through editing, images are jarringly juxtaposed, forcing the viewer to realize that space in the cinema lacks the continuity it has in external reality.

The repetitive circle and vertical lines (and lines in general), occur at different scales and orientations throughout the film. These motifs also appear in numerous variations. Examples of the circle and line include the moon, the eyeball, a crowd standing in a ring, a hole in the hand, a sea urchin, vertical stripes on clothing, a striped box, and a tie. The two forms come together; for instance, the insertion of the vertical pen into the inkwell, and the formation of the striped tie into a circular collar.

A rich and varied field is established with these two repetitive elements, which create the ordering device for the film. These two forms, which are repeated over and over again, not only act to strengthen, but emphasize, the theme of interplay amongst suggested male and female forms.

Especially important are the transformation sequences, which merge various parts of the body and various images of the same person. The visual linking between the objects is conceived flawlessly, in part due to the use of the repeated line and circle motifs.



Un Chien Andalou: Repetition of Imagery
exploration of SD repetition in "SD" medium

Warhol: the multiple

The broad and instant appeal of Pop Art in the United States may have been because the exposure to popular images (icons) is an experience shared by all Americans — young and old, urban and rural, from all backgrounds and all regions. Even Andy Warhol, arguably the most discussed and least understood artist in the past century, felt that these “new” works of art could be more directly felt than the previous nature of paintings and sculpture had ever permitted.

At first Warhol's work was not well received; it was often called “bland, impersonal, repetitive, and produced with complete detachment (Morphet 8).” However, years later his reputation had evolved into that of a master with a sensitivity for surface texture and incident. Also apparent while looking at Warhol's paintings is the immediate awareness of surface's two-dimensional quality.

Out-and-out repetitions are an aesthetic challenge; masking them in novelty is often merely a dodge — artistically insincere, proceeding from a lack of faith in one's material or audience (Kawin 10-11).

Many of Warhol's silkscreen “paintings” are produced by repeating a single, celebrated photographic image. A key element in Warhol's work is the metonymic display of “multiples” — identical images repeated like unchanging, single film frames in serial, but not sequential, repetition. These multiples may have evolved from Warhol's use of rubber stamps, a staple in the commercial art world he first entered during the 1940s. Not only were Warhol's works produced in silkscreen series, but they were also exhibited in multiple serialized display (*Eighty-Two Dollar Bills* [1962]; *Marilyn x 100* [1962]; *Thirty Are Better Than One* [1963]; *Dollar Signs* [1981]).

By his first one-man show in 1962, Warhol's involvement with iconography was apparent. At this point, he not only experimented with pop images but with the serial in art. Repetition, whether created on a single plane or not, was a key interest for him because of the emotional and intellectual impact it caused. In his early works, the repetitive elements consisted of the same objects drawn and painted in different ways. Warhol's obsession with repetition became more subtle in his later works; a single painting would have many exact copies of the same basic image. Each impression upon the surface would be a variation of the original; they would look different because of the pressure applied to the screen at the time of printing and the position of the screen itself. Because an automatic machine was not used, Warhol made artistic use of the human aspect of the process. Without the precision adjustments possible with the use of a machine, the hand has to “err.”

Manipulation of repetition for poetic value often depends on those “artful” variations that prevent a work from seeming repetitious (Kawin 38).

The act of repeating the image leads to exciting moments — smudges, color variations and density, etc. — that are not anticipated in the pure concept and planning of the piece. Warhol has willingly let chance and accident, inherent in the process and the “act” of painting, inform the work's appearance and form. In this respect, Warhol has been compared to the Abstract-Expressionist action painters Pollock and de Kooning. However, Warhol's work is semi-programmed as to the identity and placement of the image. Warhol's silkscreens also “assert a detachment that contrasts with the action painter's immersion in content and paint-application (Morphet 10).”

In art, too, repetition is a sign of maturity, of assurance and strength....where the artist repeats with assurance — not out of an inability to create something new, but as an expression of artistic freedom and intensity (Kawin 181-182).

Variations in the near-repeated images are not always due to changes in the paint's density and application on the surface. Oftentimes, Warhol makes a conscious decision in the density of the image itself. Sometimes misaligned or misregistered, portions of the image are obliterated. Facial features on the portrait silkscreens are also "filled-in". When a canvas is covered with an image repeated in rows, the rows are sometimes arbitrarily broken off, or stopped short of the canvas edge. This only further enhances the juxtaposition and interaction of the paint, as a substance applied, and the bare canvas.

Because of the near-repetitiveness of the same object in the same canvas-space, it would seem as though the viewer's recognition and familiarity with the image would be intensified. However, the use of repetition actually accentuates the differences of treatment rather than the similarities of form. What Warhol accomplishes is the return of the hand-touch back into the mass-produced work. Thus, the repetition no longer seems to be a kind of compulsive neurosis, but rather a "search, subtle and intense, a probe (Gidal 38)." In addition, author Peter Gidal theorizes that, "the anti-art statement implied in the repeated image is not to be underrated: he's not *asking* for precision of vision, he's saying 'you'd *better* look a lot closer, or else'.

To express what is both an order and a mystery rhythmic processes, repetitions with intricate variations, are the most appropriate of idioms. Repetition is the strongest assurance an author can give of order; the extraordinary complexity of the variations is the reminder that the order is so involute that it must remain a mystery (Kawin 64).

Repetition can also achieve the opposite effect, that of distancing. This is especially perceived in Warhol's *Death and Disaster* series of paintings. The primal shock power of fear symbols such as bombs, electric chairs, race riots and car crash victims, is experienced over and over again because of the strength of the images chosen and the way they are arranged, one after another (like a loop of film) on the canvas. Here repetition does not ruin effect, nor does it enhance effect. Instead, the viewer experiences the evolution from the initial shock and intense feeling to a separated distancing. Warhol's skillful use of repetition aesthetics in this series allows for a distancing that is healthy, non-destructive, and allows for the viewer to be objective. However, outside of the realm of his paintings, this type of distancing through repetition may not be possible. As previously discussed, Sigmund Freud finds that outside of the therapeutic context, it would be possible to repeat, rather than remember (and thus distance), these traumatic experiences.

It is difficult to determine whether or not Warhol is making a statement about a gruesome picture, viewed many times, as having no effect. The repetition of the accident scene reduces the concentration on the single image and increases the apprehension of the whole. In this manner, the pattern of collected images, as a whole, has a greater effect than the sum of its parts. This idea applies to all of Warhol's serial paintings, not just this particular series.

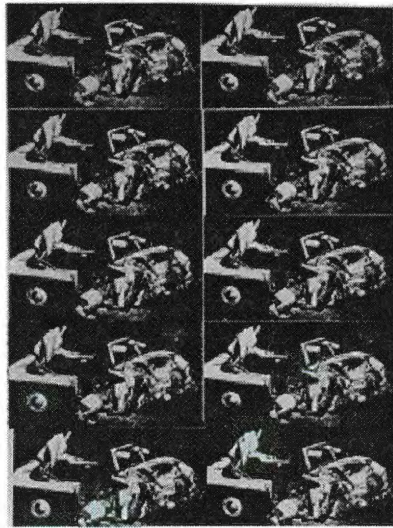
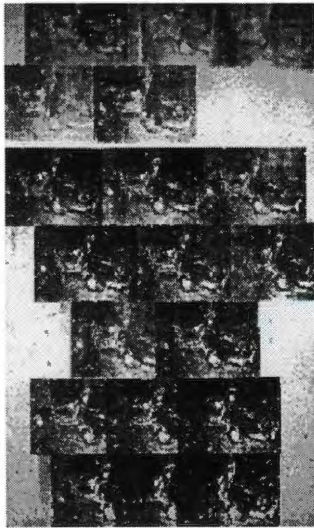
Also in relation to his other works, the repetitive nature of the object causes the viewer's eye to bounce from one image to the next, creating a sense of linear movement. And even though Warhol does not use conventional filmic continuity or a chronological progression, there is still a very strong sense of time in his work. The differences in the images in one painting are due to Warhol's *real* time — printing the images at successive moments in time as displayed by the change in paint density /

hand pressure while screening, the hand's movement, etc. Therefore, the images do *not* move forward in their real time, narrative time. To further this notion of time within a painting, author Bruce Kavin states:

The time of a painting is instantaneous, no matter how long a story it tells. A multiple-image work, such as the *Merode Altarpiece* by the Master of Flemalle, or Warhol's *Ethel Scull (Two Times)*, may be perceived at once, much in the manner of a split-screen motion picture, or it may be followed from image to image. But all the images exist in the same time-format, which is that of the canvas or wood on which they appear. The juxtaposition of instantaneous scenes makes no postulations as to how long it will take the audience to apprehend those scenes; it makes no distinction between the time of performance of the sheet of paper, and the simultaneous presence of its scenes (Kavin 112).

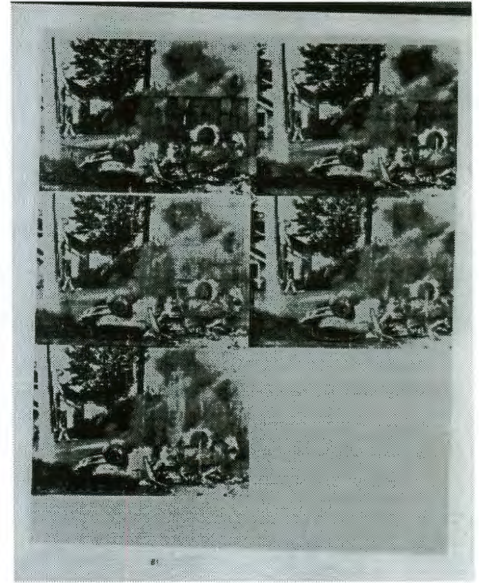
Warhol's *Jackie* (1965) is composed of eight images of Jackie Onassis Kennedy, arranged in two blocks. Similar to his early work, the same object (Jackie) is repeated, except that all of the images are different. The same approach is used in *7 Decades of Sidney Janis* (1967). The eight images of Janis are in no particular order; the viewer is forced to make sense out of the seemingly chaotic display. Both *Jackie* and *Janis* are narrative works in that, "their anti-narrative takes precise consideration of narrative structure and then goes against it (Gidal 41)." Since Warhol believes that viewers intuitively respond to paintings in a linear, narrative way, he purposely designs these chronological disruptions to produce a shock effect. The dislocation of time that is therefore sensed "forces the viewer to rework his conscious reactive attitudes (Gidal 41)." No longer is time viewed as goal-oriented, with start and end points. What evolves in both paintings is a sense of time-fragmentation, which is very different than time as discussed earlier and as experienced in other serial works.

Because of Warhol's mastery of time manipulation, it seems appropriate to further examine a medium where the concept of time is interwoven, both internally and externally, with the subject matter — that is, film. Similar to Warhol's fragmentation of time and use of repetition as an aesthetic device are both the proto-Pop, Cubist film *Ballet Mecanique*, and the Surrealist film, *Un Chien Andalou*.



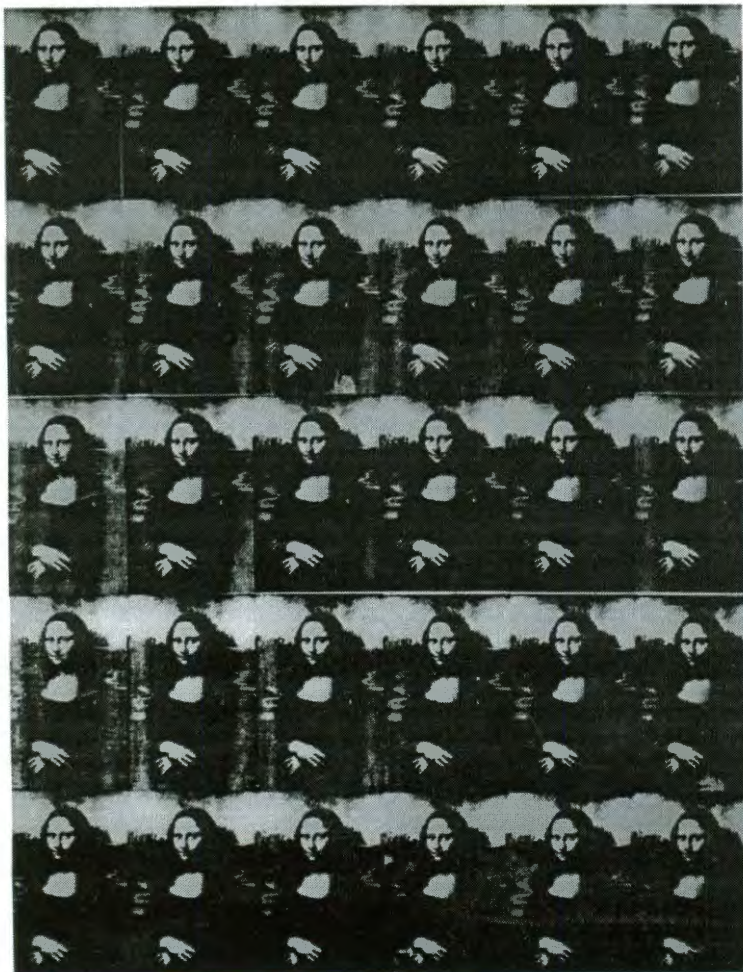
The reason I'm painting this way is that I want to be a machine, and I feel that whatever I do and do machine-like is what I want to do. I think everybody should be a machine. I think everybody should like everybody. My paintings never turn out the way I expect them to, but I'm never surprised. I like boring things. I like things to be exactly the same over and over again.

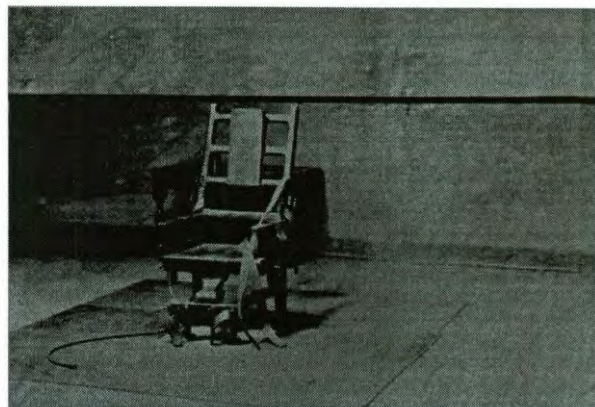
Warhol: Serial Paintings
exploration of 2D repetition



Above: Two serial paintings from the *Death and Disaster* series, *Orange Disaster* and *White Disaster* (1963)

Below: Single icon repetition, *Thirty are Better Than One* (1963) and *Two-Dollar Bills* (1962).





Above: Electric Chair (1967)

At left: Jackie (1965)

Below: 7 Deacades of Sidney Janis (1967)



Galveston and the Seawall

Galveston Island is a long narrow barrier beach that fringes the Gulf Coast of Texas, approximately 50 miles southeast of Houston. Nearly 28 miles long, this low, sandy formation varies from one-half to three miles wide.

In the decade before the Civil War, Galveston became the first city in Texas. Galveston recovered quicker than any other city in the country from the war. The war actually had an extremely positive affect on the city; it grew to be one of the most prosperous and dynamic seaports in America. One of the reasons for the rise of Galveston was that the war had delayed railroad connections between Houston and the other cities and towns of the interior. Galveston Island was the gateway to the Midwest and also Texas, in fact 95 percent of all trade goods entering or leaving Texas came through this Gulf port.

By 1880 the city's population was over 22,000, more than three times the census before the war. And because of Galveston's prosperity, immigrants poured in at more than 4,000 a year. The wealth of the island was displayed prominently along the Strand, the main business street. Called the Wall Street of the Southwest and the "New York of the Gulf" in general, the Strand's ornate ironfront Victorian buildings were the envy of many other cities. Banks, newspapers, and the businesses of millionaires all shared offices along this street. The city provided many upscale amenities and firsts for its citizenry:

The city had six public squares, two parks, two miles of esplanade, street railways drawn by horses, thirteen hotels, three concert halls, and an opera house. Fancy shops sold fine English carpets; French china, wine and brandy; and German-made rosewood pianos. In 1858 alone Islanders purchased twenty-three grand pianos. Galveston had the first gaslight, the first electric light, the first telephone, the first hospital, the first law firm, the first trade union, the first golf course — name any business or institution or invention and Galveston probably had the first in Texas (Cartwright 118).

Also, for the first time, Galveston's beach was thought of as a tourist attraction. Islanders did not take to kindly to this, they neither wanted the attention nor needed it. In fact, weekend day-trippers from Houston, traveling by train, were believed to come to town "with a dirty shirt on their back and a five-dollar bill in their pocket, and never bothered to change either one (Cartwright 147)." For Galveston's citizens, the mule-drawn streetcars provided access to the beach for five cents a ticket. One of the most luxurious beach amenities were the horse-drawn bathhouses that were pulled in and out of the surf so that bathers did not have to get sandy. Another beachside presence was the Galveston Pavilion, a two-story ornate structure at 21st Street and Q Avenue. Supported by four enormous steel arches, the pavilion boasted an unobstructed, 16,000 square feet dance floor. Unfortunately, in 1883, the Galveston Pavilion burnt to the ground when fire engines were trapped in the deep sand. The two-hundred-room Beach Hotel was constructed on the site and was an instant showpiece. High-ceilinged verandahs and open galleries that captured breezes, along with unrivaled grandeur, attracted visitors from as far away as Chicago and Denver.

All of this was to change forever when twenty years later a hurricane battered the island Galveston for

two days, destroying nearly everything in its path. The Great Storm of 1900 took approximately 6,000 lives, making it America's greatest natural disaster on record. A huge 15-foot tide demolished more than 3,600 houses, along with hundreds of other buildings and institutions.

The Seawall

Two years after the storm, a city and county-appointed board, consisting of both Army and civilian engineers, prepare a report which details a proposal for a Seawall and accompanying raising the grade of the city. The Seawall was to be seventeen feet tall and three miles long. Soon thereafter, the entire grade of the island would be raised between eight and fifteen feet. A similar proposal for the construction of a breakwater along the beach had been rejected prior to the Great Storm. Critics, citing obstruction of beach views and a diminished tourist trade, prevented what could have saved thousands of lives.

In October of 1902, construction on the first portion (3 miles) of the Seawall began from Market Street to the beach along Sixth Street down to 39th Street. Constructed in alternating 60 foot sections, this portion of the Seawall took sixteen months to complete. The Seawall rises seventeen feet above mean low tide, and weighs approximately twenty tons per linear foot. Its base varies from sixteen to twenty feet wide, its top ranges from 3 to 5 feet in width and is adjacent to an apron of granite, sandstone, or concrete.

The Denver construction company of J.M. O'Rourke built the Seawall...using massive and sophisticated equipment and techniques never seen before in Texas...Steam-powered pile drivers that looked like oil derricks hammered the pilings down into the clay stratum, and work crews covered the pilings with foot-thick planking that became the base for the wall.

Once the materials starting arriving in steady supply, four pile drivers worked simultaneously. Following the pile drivers, carpenters hammered together caissons or forms; following the carpenters, "mixing plants" mounted on rails filled each form with concrete, reinforced with steel rods. Since it took seven days for the concrete to set, crews built alternate sections, and linked them with tongue-in-groove joints (Cartwright 189-190).

The sea face of the concrete wall is "curved so that its upper portion will be vertical, to give the wave an upward direction and prevent, to a great extent, its running up and over the embankment behind the wall (Davis 3-4)." The Seawall has a foundation of piles and is protected from undermining by sheet piling and a layer of riprap 27 feet wide and three feet thick that extends out from the toe of the sea-facing wall (Davis 4).

After the initial three mile portion was completed, the city tackled the extensive grade raising. The original elevation of Galveston was only five feet above mean tide. As a result of the raising work, 1902-1910, the elevation is currently eight feet along the Bay side and up to 22 feet at the Seawall/Gulf side. In order to bring the city to a level that would protect it from the ravages of the sea, every house, building, church and school over a five hundred block area would have to be raised on jack-screws and filled under with sand. The streetcar tracks, water pipes, gas lines, trees, and even cemeteries had to be elevated. Alfred Noble, one of the engineers on the project was confident; he participated in the jacking up of several large buildings during Chicago's grade elevation. In order to acquire enough sand for the undertaking, self-loading dredges were used to collect sand from the

ship channel. The fill would then be delivered across the city by way of a specially-dug canal. Dikes were constructed which divided the city into quarters, enabling the city to be raised one section at a time. As the buildings were jacked up, the dredges would move along the canal and discharge the liquid sand.

Despite the many inconveniences created during this eight year phase, people adjusted and bonded together as a community:

The canal became part of the scenery, something that seemed to have been there forever. The city looked like a river town during a big rise, and people walked wherever they had to go, across narrow planks or trestles, some of them eight or ten feet above ground. Old habits were changed, old routes altered. It became acceptable practice for people to take shortcuts through the homes of strangers (Cartwright 192).

Immediately following the completion of the first phase, Galveston bounced back to become even more vibrant and idyllic than it was in the 1880s. Seawall Boulevard immediately became one of the most impressive marine drives in the world (Cartwright 194). "Pleasure" piers, filled with various amusements, were built out over the Gulf, including Murdoch's Bath House. Down below at the beach level, Brownie's Casino and Resort Pavilion offered gambling and entertainment around the clock. The old Beach Hotel was gone, but located nearby was the new Galvez Hotel, one of Galveston's great landmarks.

Another hurricane hit the island in 1915. A three-masted schooner was lifted out of the water and tossed across the top of the Seawall; four-ton blocks of riprap were hurled across the boulevard. The storm blew out windows and crushed nearly all of the buildings beyond 53rd Street. However, the Seawall stood steadfast and prevented the storm from doing more serious damage during the 40 hours of rough waters, much longer than the storm fifteen years earlier. In fact, guests of the Galvez Hotel continued to drink and dance the night away in the ballroom.

In response to this storm and imminent others, Galveston continued to extend the Seawall in several phases: 1921 - 3 miles; 1926 - 1 mile; 1953 - 1.2 miles; and 1962 - 1.2 miles. A total of 10.4 miles has been constructed, stretching past the city grid, three miles to the west.

The Seawall is a constant reminder of past storms and the omnipresent potential for damage. Like the Seawall, the residents of Galveston have successfully weathered many storms, both natural and those brought on by man himself. In fact, life in Galveston has changed little in the past one hundred years. The changes are mostly cosmetic: a new hotel or pier, an artificial beach with imported sand. Many neighborhoods still cling to their mom-and-pop taverns and groceries. Clapboard cottages, raised on stilts, sit between magnificent mansions from a bygone era. Strip shopping centers are a relatively new concept and malls simply do not exist. Trolleys, like the streetcars of yesteryear, still ferry visitors from the beach to the Strand and back again. The Strand still sleeps for a better part of the week, only to show its splendid restoration to weekend travelers. And each night the Mosquito fleet of shrimp boats returns to its slips. Still the Seawall stands.

* * * *

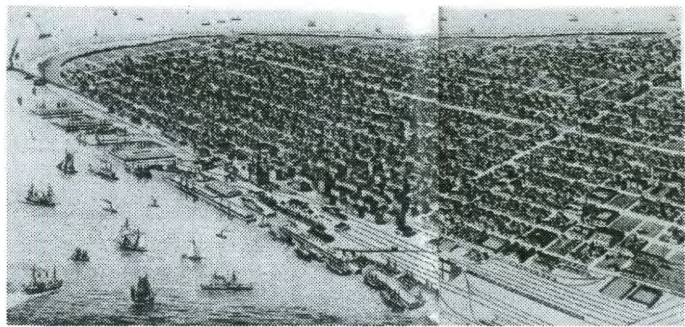
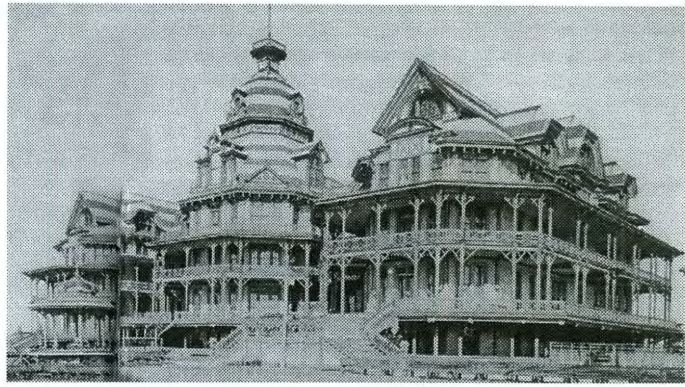
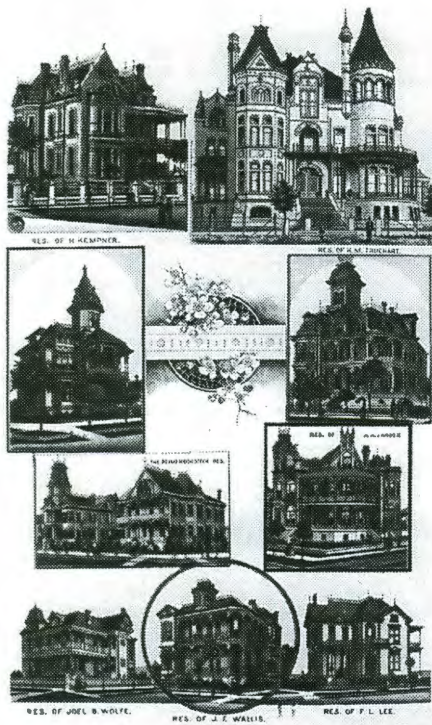
Having the distinction of being the longest sidewalk in the world, Galveston's 15 foot wide Seawall stretches for over ten miles. The Seawall is an interesting space; it has positioned itself between the chaos of 6 lanes of highway traffic and the serenity of the beach and Gulf of Mexico. The highway

serves as the main east-west access for the island and creates an artificial divide between the condominiums, houses, mom-and-pop establishments and the beachfront.

This smooth corridor of uninterrupted space is very different than the modulated blocks of the city's urban fabric. Because the Seawall is, in effect, an edge condition, it is the purpose of the design proposal to make it a habitable space. This is achieved by increasing the density of the edge through modulation and newly implemented components. A new reading of the Seawall is therefore developed.

The Seawall is very similar to the previously-analyzed repetition in film in that it parallels the fragmentary experience of the films. Both the Seawall and film (in general) present themselves linearly as a single progression, with established start and end points. However, the Seawall is usually experienced in pieces; few people traverse the entire ten miles in one visit. Both the Seawall and film's smaller segments provide for experiences that are very similar to one another, and thus negate the need to explore the whole. The continuity of the theme carries throughout the work. For instance, objects used in certain sections of *Ballet Mecanique* are repeated later in the film or even in the frame itself when a prism is used. In *Un Chien Andalou*, the circle and vertical line motifs, seen in almost every frame of the film, establish a field whose imagery becomes the theme itself.

A series of graphic analyses, like those used for the films, are used to examine the Seawall and its inherent repetitive orders:



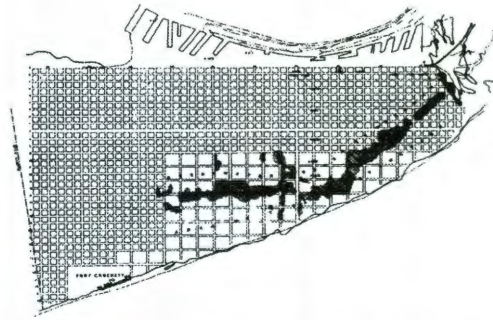
Above: homes of the Galveston elite; the Beach Hotel circa 1890; and an aerial drawing from the same period
Below: postcard of Broadway Avenue at the turn of the century





Aftermath of the Great Hurricane of 1900. The ruins of Sacred Heart Church are in the top center of the photograph below.

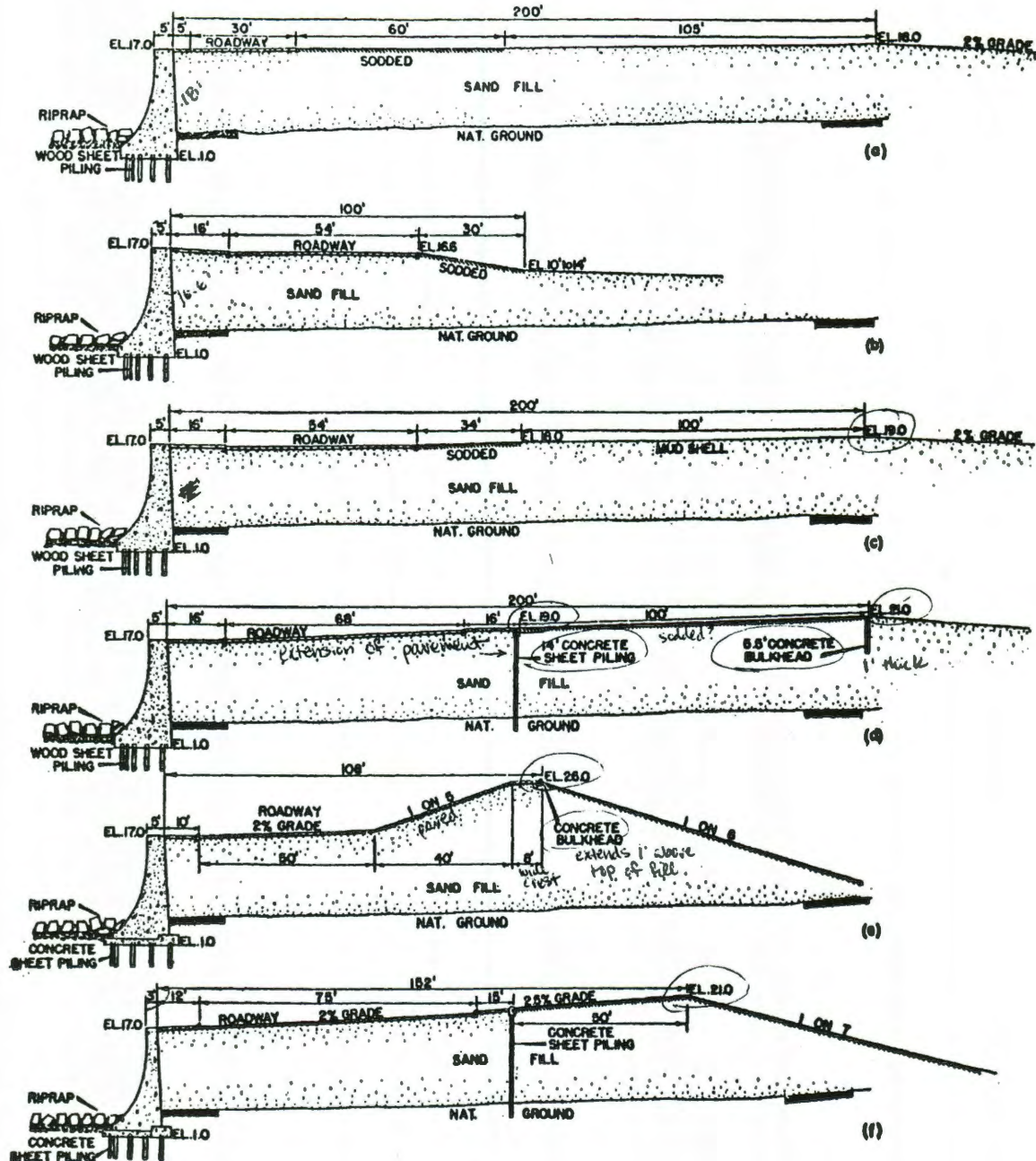




Above: Sacred Heart Church; a map showing the most devastated area; and a typical street

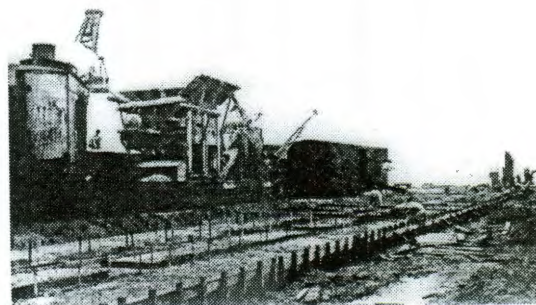
Below: The powerful waves of the 1915 storm -- the Seawall directs the wave upward and thus prevents the force from coming ashore

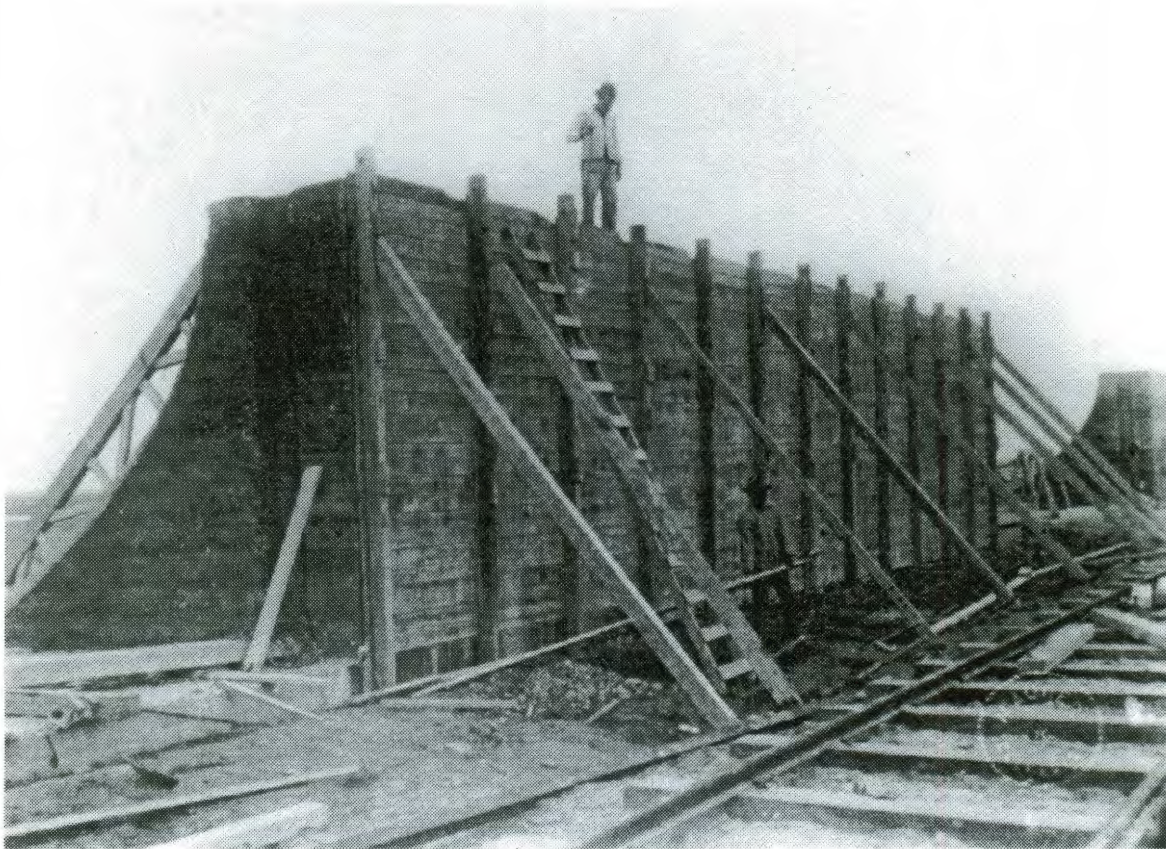




Above: drawings showing the evolution of the Seawall's section

Below: the construction of the Seawall -- driving the foundation piles; pouring concrete in to the Seawall

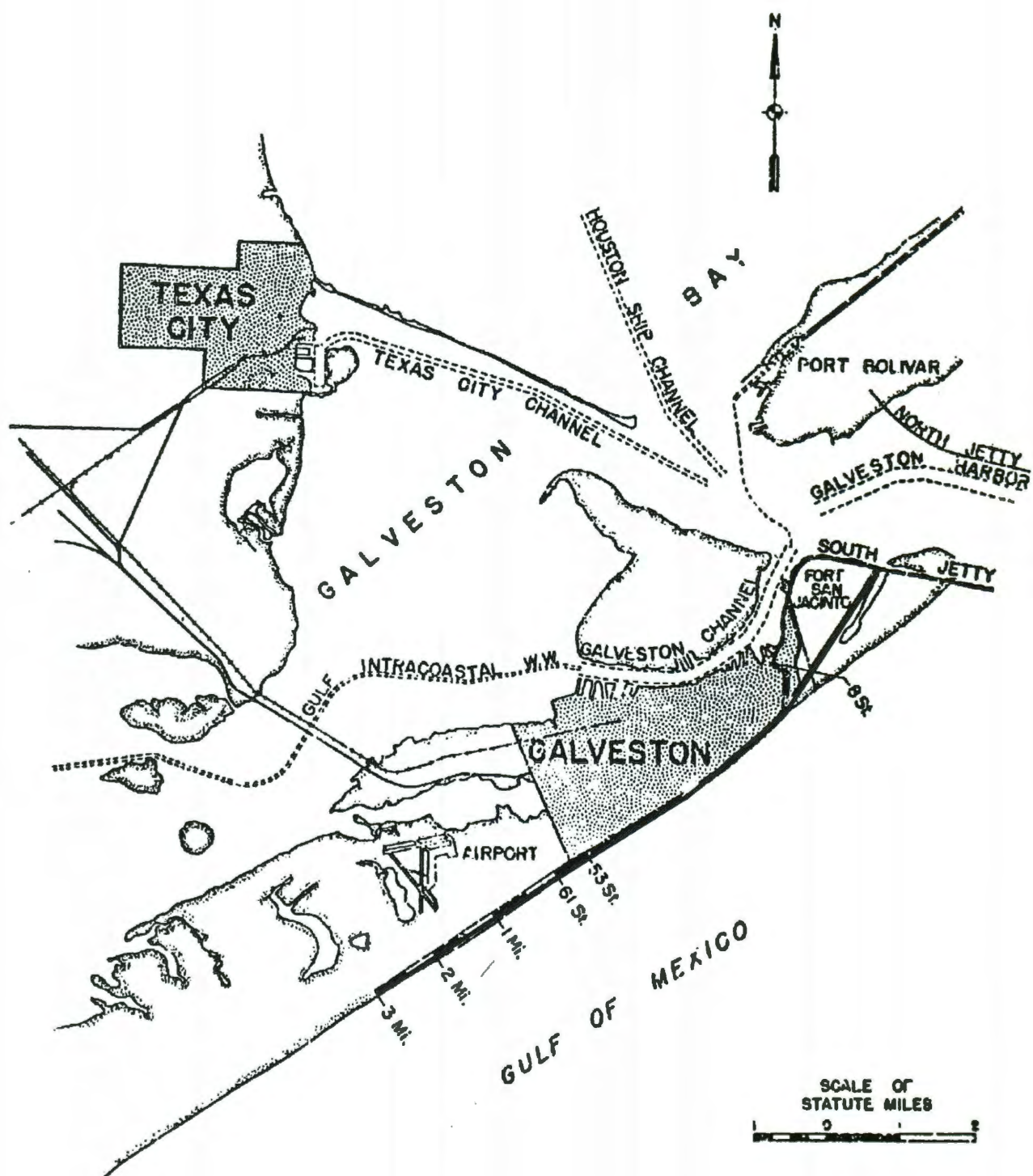




Above: Construction of the Seawall in alternating 60 foot sections

Below: In the process of grade raising; note the walkway extending from the house





Above: Location map of Galveston's Seawall. The gridded downtown is shown shaded.



The glory days of the Crystal Palace, featuring a swimming pool, dressing rooms, cafes and a walkway across Seawall Boulevard to the beach.





The Seawall during the early 1920s. Tourists continued to visit during Prohibition because alcohol was readily available underground.





Above: the Seawall at 21st Street; from left to right are the Beach Hotel, the Orpheum Theater, the Joyland Park, and the Galvez Hotel.



At left and below: The Galvez Hotel



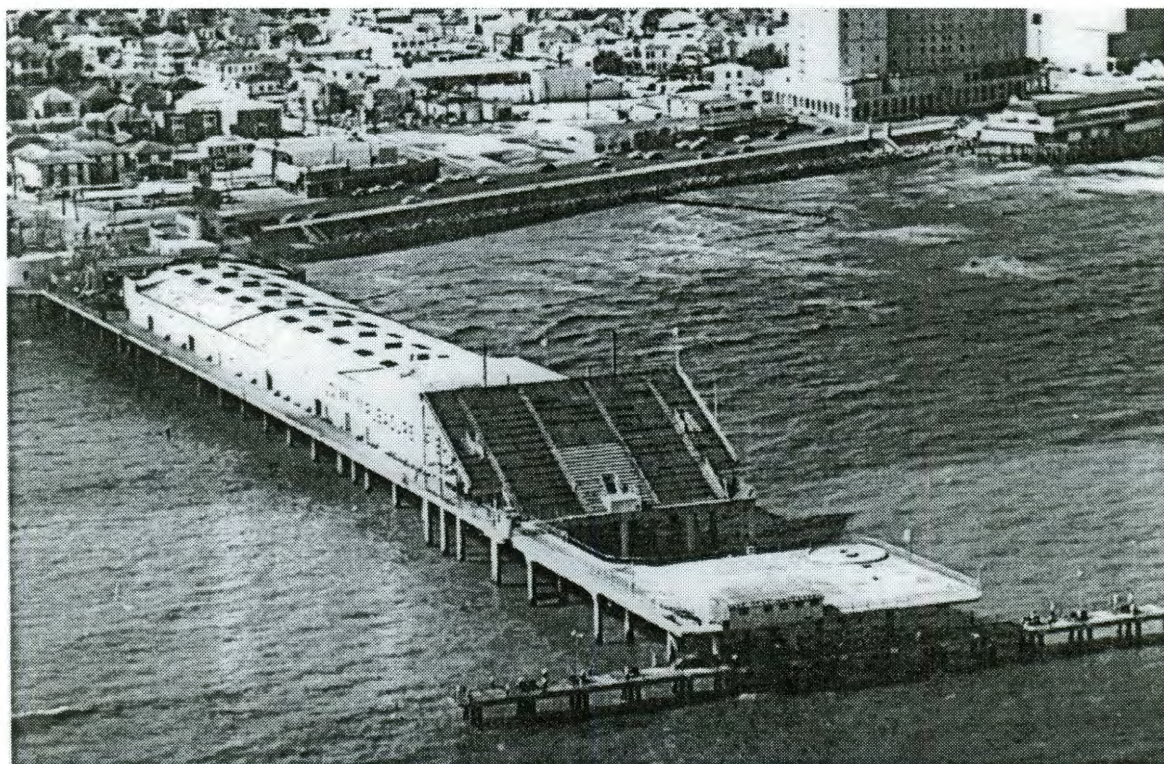


Above and below: Murdoch's Bathhouse. Located across from the Crystal Palace, Murdoch's was the original in a long series of bathhouses and pier buildings overlooking the Gulf.





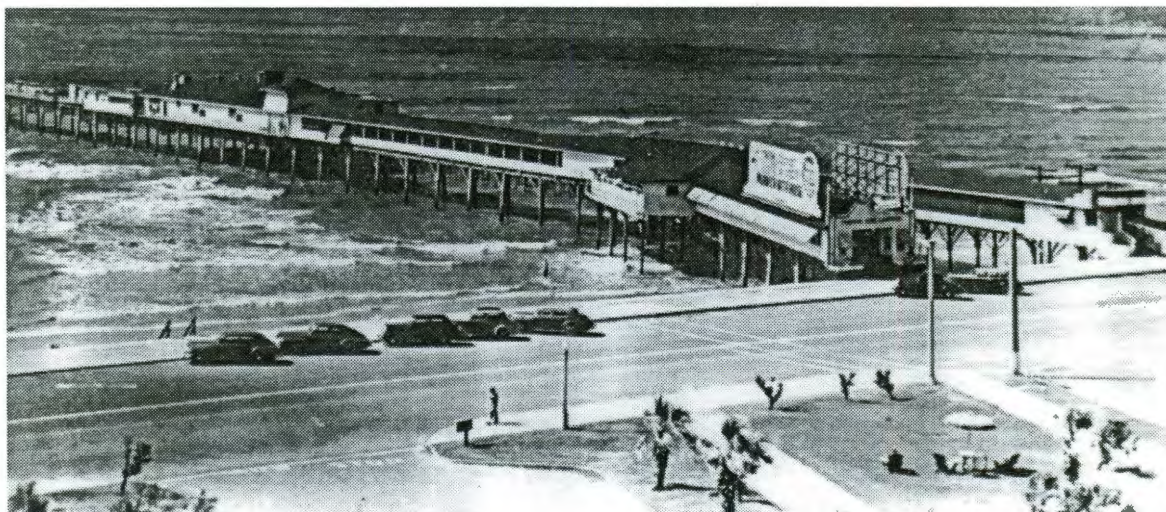
Above and below: The Pleasure Pier at 25th Street and Beach, September 1962. The pier featured many amusements, an outdoor theater and a fishing pier. Often considered to be Galveston's white elephant, the Pleasure Pier was destroyed in a storm a few years after these photos were taken.





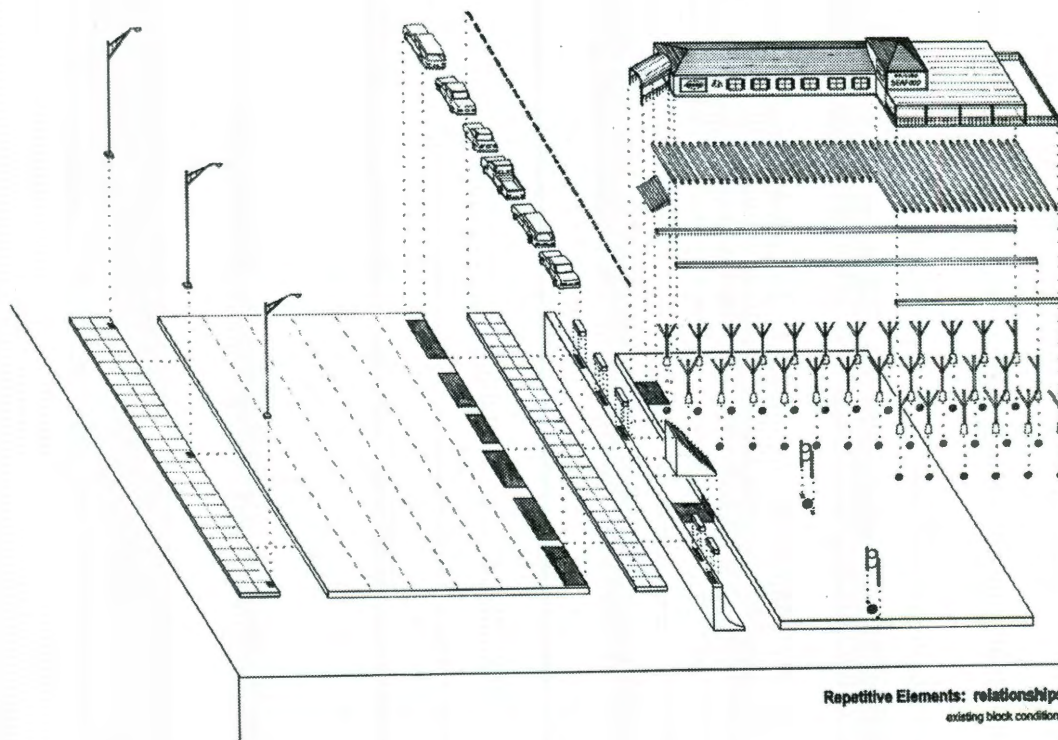
Above: Avenue C looking west from 22nd Street, circa 1942.

Below: Dining and pleasure pier in the mid 1940s.



Repetitive Elements: relationships

Constructed throughout many decades but still in 60-foot segments, the Seawall is intrinsically repetitive. The Seawall space has its own set of elements which can be seen as motifs: the monstrously tall highway lights, the parallel-parked cars along the edge, the utilitarian concrete benches and staircases, and the infamous blue trashcans. Also unique to the water's edge is a method of construction not seen elsewhere, the concrete-based wooden piers. These piers, set in a grid formation, create a very dense field at the beach level. These latent repetitive orders not only occur as individual elements, but in groups as well.

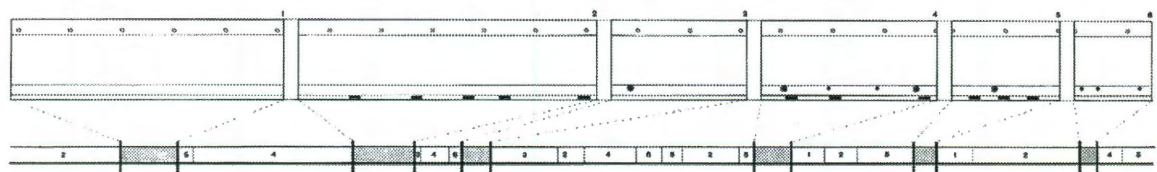


Sequence Analysis

Like the segmentation of a film to analyze its development, the Seawall can also be examined in this manner. The sequence analysis points to distinct sequences "already in place". The existing groupings of the repetitive elements are graphically depicted, numbered, and then diagrammed as they occur along a particular stretch of the Seawall. This segment of the Seawall is representative of the whole — the groupings continue along the entire length and are determined to be as follows:

- 1 - highway lights
- 2 - highway lights, concrete benches
- 3 - highway lights, blue trashcans
- 4 - highway lights, blue trashcans, concrete benches, metal posts
- 5 - highway lights, blue trashcans, concrete benches
- 6 - highway lights, metal posts

Even though the adjacencies of these groupings repeat along the Seawall, it is more interesting to note how the interval patterns established by the individual elements overlap and intertwine with one another. For instance, the highway lights consistently follow a 120 foot module, whereas the concrete benches only adhere to a 6 foot separation in certain areas, a sporadic interval in others.

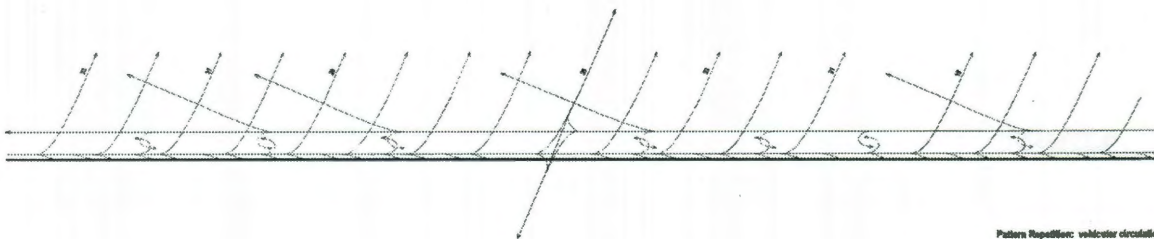


Sequence Analysis

Pattern Repetition: Vehicular circulation

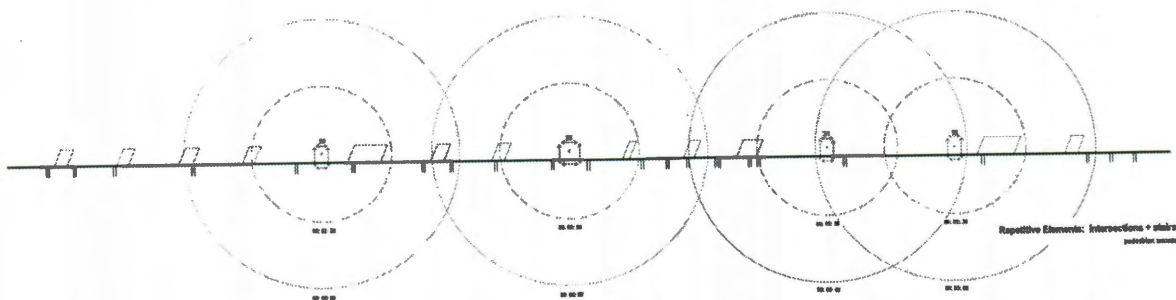
Most of Galveston's cross-city traffic travels along the beachfront on Seawall Boulevard. Composed of three lanes of traffic in either direction, a common lane is used for turning in the center. What results along this stretch of asphalt is a seemingly chaotic condition of cars. However, with closer inspection, the movements of the cars begin to establish repeated patterns. These patterns are then diagrammed for the same area as the Sequence Analysis, 16th Street through 33rd Street. Three patterns become apparent: eastbound traffic pulling off to parallel park at the beachfront, large amounts of eastbound traffic turning onto the numbered streets, and less westbound traffic turning onto the lettered streets. Also, an anomaly occurs at 25th Street. Here traffic curiously flows "through" the Seawall edge to reach the Flagship Hotel, which extends out into the Gulf. A similar condition occurs in only one other place along the Seawall, the fishing pier at 81st Street.

Ironically on a highway used mostly for continuous, uninterrupted travel, there are many U-turns are made by both east- and westbound traffic. This is very similar to the behavior displayed by runners and other recreationalists who traverse a dozen blocks of the Seawall only to double back. The Seawall and adjacent highway constitute a very smooth, continuous space. However, the patterns of the cars and recreationalists suggest that there are many repetitive loops being made, causing a type of turbulence. This activity does not have a negative effect, rather it adds a varying density to the space at different points in the day.



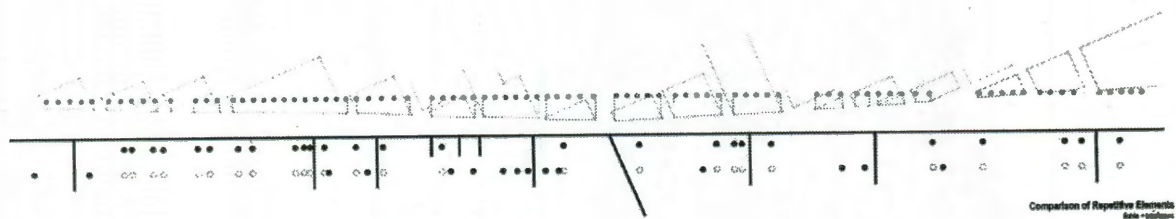
Repetitive Elements: Intersections and stairs

The primary users of the Seawall are non-motorized pedestrians: people walking with pets or strollers in tow, bicyclists, in-line skaters, runners, and other recreationalists. In terms of pedestrian access to the Seawall and beach, Galveston does not score well. Intersections, which stop the heavy flow of vehicular traffic along the highway and provide necessary crosswalks, are few and far between. The diagram shows these intersections at 19th, 21st, 25th, and 29th Streets. Two short blue lines depict the locations of the concrete stairwells that access the beach. Also shown are a series of two circles, one solid and one dashed, which are the two and one-half and five minute walking distance circles used by urban planners. The sporadic placement of access points further concentrates visitors into certain segments of the Seawall. And since visitors inherently travel only few blocks once they reach the sidewalk and beach, the Seawall is no longer seen as one complete fluid space. Instead, there are distinct areas of concentration within the space, much like those discussed above caused by automobile traffic. Later, in the design proposal, access points will be increased at regular intervals in order to disperse the flow of pedestrians and maintain a more consistent, smooth space.



Comparison of Repetitive Elements: Lights and trashcans

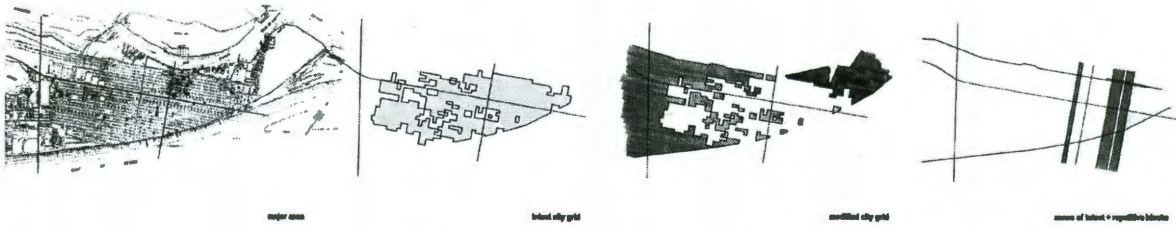
A comparison is made between two inherently repetitive elements, the highway lights on the north side of Seawall Boulevard and the blue trashcans on the beach. The lights, shown as yellow circles, are placed at 120 foot intervals. Since they are so continuous and unwavering, they form a single line without regard for the city blocks below them. In sharp contrast to the lights are the trashcans, depicted as blue circles. They are not repeated at regular intervals, and their once single-line formation has been disrupted by the power of the surf. Normally the trashcans are placed about 50 - 75 yards from the face of the Seawall, but because of the impact of the waves, some have been redeposited at the edge of the Seawall. Dotted lines are shown for their original positions. More importantly, the dotted lines also represent the "afterimage" of the trashcans. An afterimage is a type of "ghosting" that occurs as a result of experiencing a film. Visually film is a very powerful medium whose images sometimes have a strong impact. Thus, film tends to leave a visual "residue" in the viewer's mind. Both the afterimage of film and of the trashcans represents what once was, even though physically, they are no longer present.



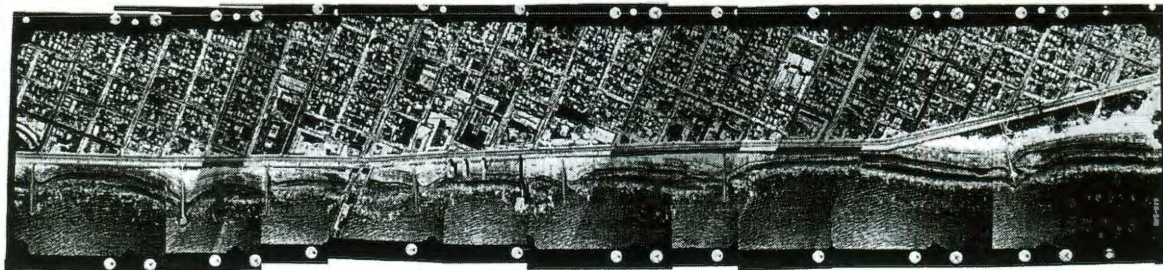
Determination of the 3 Sites

Shown in red as a point of orientation, Galveston's three major axes are: Ave J (Broadway), 61st Street (access to the west end), and 25th Street (Rosenburg Avenue). Broadway and Rosenberg Boulevard divide the city's original standardized grid into neat quadrants. The north-south and east-west streets create a field of repetitive, nearly-square blocks. Much of the original city fabric is intact; the form of the blocks has not been altered (shown in yellow). However, the city grid has been modified to produce larger areas, composed of several united blocks, for schools, hospitals and other municipal infrastructural services (shown in brown). What emerges from this examination of the fabric is three zones, extending from the north side of the city at the Ship Channel, through the downtown, to Seawall Boulevard on the south side. These zones, depicted in blue, are composed of original, repetitive blocks that have not been modified over time, and therefore represent a large scale, inherently repetitive order in Galveston.

The three sites used in the design proposal are located at the point of intersection between the zone of intact blocks and the Seawall. Shown as red lines in the aerial photograph, the sites of investigation were determined before the system was deployed and are selected segments of the Seawall and its accompanying sidewalk. These three sites are used as an initial testing ground for the deployment of the design proposal's system. Each one of the sites, and also as a group, are representative of the strategy for the entire Seawall, and demonstrate the possibilities for the city's promenade. Each site also demonstrates the impact of the system in response to specific recurring contextual conditions. The flexibility of the system is tested and explored through the three sites which share both similarities and distinct differences.



Determination of 3 Sites based on inherent repetition in Galveston's fabric



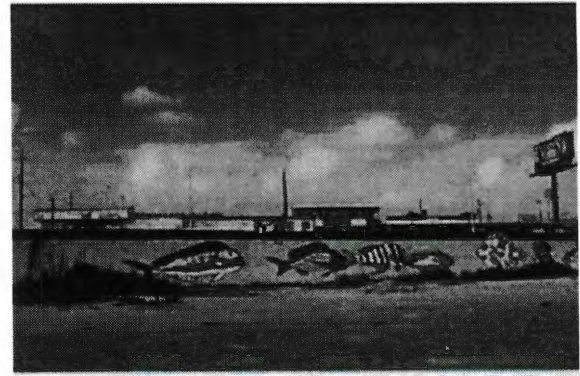
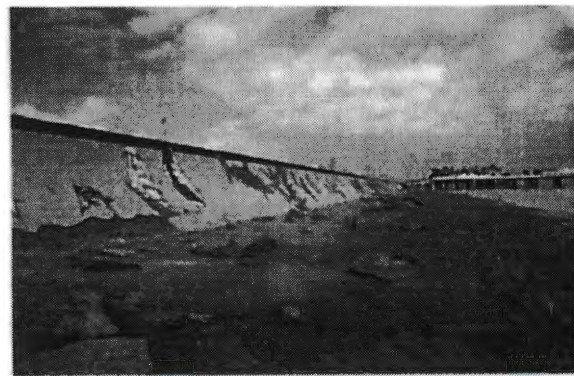
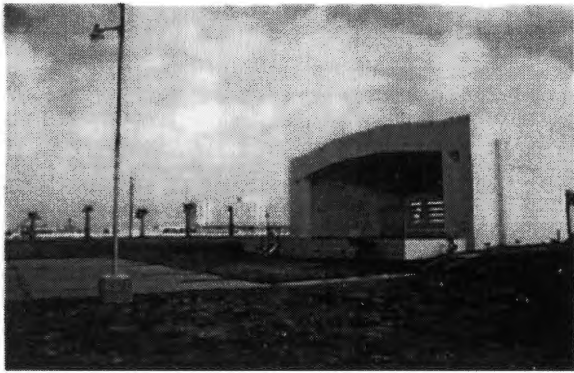
Aerial photograph depicting 3 zones of intact city blocks, and the 3 sites

Site 1 - located between 28th and 29th Streets

This site is adjacent to Menard Park, a common green space for the surrounding neighborhood and community. Established in the very early 1900s, the rectangular park consists of two united city blocks, the short end of which faces the Seawall and Gulf. Many recreational amenities are located here: basketball courts, game fields, picnic pavilions, and a community center. A tall concrete amphitheater serves as the focal point for the park; its rear facade is punctured with openings that allow for the morning sun to enter above the Gulf. Tall palms are found both in small clusters and edging the park. Unfortunately, the space that once featured city band performances and community gatherings, is now empty and feels imminent concern stemming from the encroaching seedy neighborhood. Even the mural project, which covers approximately ten blocks of the Seawall's face with brightly colored images of marine life, does little to enliven the park above.

The site is also within close proximity of the Flagship Hotel, the only lodging establishment over a body of tidal water. The Flagship is located on an enormous 700 foot long pier which extends 25th Street past the Seawall into the Gulf. The pier, originally conceived as a pleasure pier in 1912, completed in 1944. The four-block long pier featured a ballroom, an outdoor theater, a snack bar, and a T-head fishing area at the end. The complex was never profitable and was called Galveston's "white elephant" (McComb 190). The 240 room Flagship was built in 1963. Because the Seawall side of the Boulevard has very little modulation with which to judge one's position, either on foot or in an automobile, the Flagship's omnipresence is the only guide — one can determine their location based on their proximity to it.

The design concept for Site 1 includes the creation of an elevated walkway for pedestrians, inspired by one from the 1920s originally located a few blocks away at the Crystal Palace. The walkway establishes a new relationship between the Seawall and Menard Park by providing safe, easy access. A monumental gateway, spanning Seawall Boulevard and announcing the presence of the park, is yet another benefit of the walkway. On the Seawall side, two buildings of moderate size, along with a lookout point and plaza extending into the water, are also proposed. The buildings are not specifically programmed and may include retail, restaurant, and visitor information spaces. Site 1 also includes kiosks which, in conjunction with spaces in the park, may house a weekend farmers' market or craftsmen. It is the goal of Site 1 proposal to not only unite the two disparate halves on either side of the Boulevard, but to increase the park's presence in the community to a level not seen in many decades.



1

Site 2 - located between 15th and 18th Streets

The three block stretch of Site 2 does not have nearly the amount of Site 1's exciting large scale institutions; in fact, the site has only an intersection. Three blocks on the western end of the site are characterized by houses that have been converted into mom-and-pop establishments: a restaurant, bar, and bicycle rental. Two motels provide lodging for weekend visitors and are otherwise vacant until the busy summer season. The most prominent building in this area is a large building that varies from four to six stories. Painted with a curiously blazen title on the east facade, "Capt. Jack's Seafood Restaurant", the building has not seen use in years (as witnessed by large pieces of plywood), and is currently for lease.

This site is a prime example of what could be termed Galveston's middle landscape. Not quite rural, not quite influenced by the larger buildings of downtown, Site 2 does not have any regional or national chain establishments to call its own. The Seawall portion of the site is barren and provides the perfect opportunity to implement the design system to its full potential. In fact, a red "start" arrow is painted on the sidewalk. All six components are used on this site, and their overlapping patternings can be read clearly for there are no obstructions.



Site 3 - located between 12th and 14th Streets

Similar to Site 2 in terms of its small scale, the two blocks of Site 3 do have several kitschy local and chain restaurants, as well as the requisite T-shirt shop and beach bars. Of interest is the La Quinta motel; part Florida Mediterranean and part Alamo, this relatively new motel sets the tone for all that is Galveston. Also of note are three very small wooden structures used presumably for concessions during the summer months. Their bright colors and miniature golf course appearance are an example of Galveston's "beach" aesthetic. From the very east end of the site, Stewart Beach Park can be observed. This family attraction is a conglomeration of a human maze, visitor facility, bar, cheap snack stands, and, of course, miniature golf. With almost no limits as to its tackiness, the site also features a huge 45 foot tall billboard promoting a local Tejano radio station; on the other side, a T-shirt and beach supply store.

The design proposal for Site 1 includes a lookout at the far east end. Located almost where Seawall Boulevard takes its only turn, the lookout provides an ideal vantage point from which to peer at Stewart Beach Park's festivities in the distance. Like Site 2, all of the components are implemented in hopes of achieving a new, actually-designed aesthetic for the site, one that carries through the entire Seawall.



The System and its Deployment

The purpose of the system is to transform the Seawall, and edge condition, into a habitable, modulated space by increasing the density of elements along that edge. This is achieved through a system of interventions that intensifies the awareness of the latent repetitive elements and orders of the context. This in turn, also establishes an inherent set of rules for the deployment of the system. The system is essentially a proposal to be implemented by the city of Galveston, and can be constructed in phases.

A master plan is not designed; instead segments, which are representative of the entire Seawall, are used to test the flexibility of the system. Variations of these segments can then be created and repeated for the entire length of the Seawall. This strategy creates a cohesive set of rhythms and establishes an unified order much like the cadence of films discussed earlier.

The linearity of both the Seawall and the intervening system orders movements and spaces into a single progression that combines various divergent concerns. The Seawall and the system collaborate to unify tourists and residents, and the beachfront and highway, and other disparate elements of the city. The linear experience is supplemented by the repetitive fragments (components), which individually create the possibility for reading the entire experience.

An infrastructure of six components is implemented in a response to, and as an elaboration of, the existing repetitive conditions. It is the designer's belief that there is no need or desire on the part of the city for a mega-scale intervention, be it another IMAX theater located at the water's edge, or a virtual reality theme park. These types of inventions do not correctly respond to Galveston's extremely spontaneous promenade. Instead, an infrastructure of smaller scale components are implemented as stage sets that encourage participation and interaction. Emphasis is also placed on views, access, and the creation of nodes of activity. The size of these interventions is appropriate; they can be distributed along the entire Seawall to be experienced by everyone. Therefore, a huge statement located in the center of the Seawall, attracting a particular group of people or whoever is nearby, is avoided. Also, the more human scale of the system does not interfere with the overall reading of the Seawall. Different options are available, as both temporary and permanent spaces are created.

Through the use of repetitive components and anomalies, their specific characteristics, and the accompanying rules of deployment, different layerings of patterns are established. These layers overlap to create not only new conditions, but a rich, dense field which gives order to an otherwise fragmentary context. Hence, the scheme for the Seawall is not a random accumulation of elements, but a flexible system whose abstract patternings are different every time it is implemented.

The system is comparable to film, especially *Ballet Mecanique* and *Un Chien Andalou*, in that the reading of the whole is established by groupings of singular elements;

visual succession in a film is an optical illusion, the illusion of wholeness and continuity produced by the movement of celluloid through the projector. Cinematic succession makes whole out of mere pieces: (1) an apparently fluid whole out of obviously disparate frames; (2) an apparently spatial or temporal or imaginative

whole out of obviously disparate shots; (3) an apparently structural whole out of obviously individual “events” (Mast 137).

Overall, the system is not a master plan, but rather a strategy for the accumulation and build-up of components that transform the flat site, and adds variety to Galveston’s most spontaneous space.

* * * *

The main elements of the system, the components themselves, will be discussed in detail later, along with their properties and specific rules for implementation.

General Rules for the System of Intervention:

In general, components can be deployed in response to specific contextual conditions, the rhythms developed by the system itself or an intuitive decision. The following rules order the components on a more specific, individual basis:

1. Components can be repeated in new locations

Components can either continue an existing pattern, supplement an existing pattern, or establish a new pattern

2. Components can be selectively added for functional purposes

Since one of the goals of the design proposal is to provide convenient beach access, there is a need for staircases at a regularly established interval, namely 500 feet.

3. Components arranged in groups can be repeated

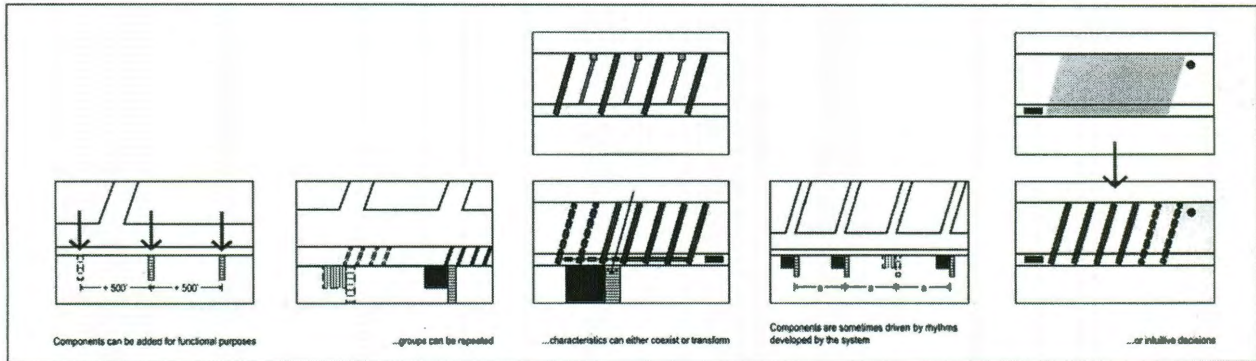
Because repetition continues along the entire Seawall, the sequences are representative of the whole length. For instance, a grouping of components, such as a new staircase and an adjoining building, that is deployed on one site, can be repeated on another site. Thus, the repetitive pattern continues through all of the sites, even though the staircase / building grouping may appear as an anomaly on a particular site.

4. When components meet, either of these two occur:

When two components meet, the components can either *coexist* and possibly combine, or one can be *compromised*. That is to say that the characteristics / properties and "rules" of a particular element may be overridden by a more domineering component or one that takes precedence. The properties of that particular component may change or be even canceled altogether, depending on the circumstances. For instance, a shade structure may not extend as long if it encounters a wall component in its path.

5. Anomalies may occur:

Usually occurring at the rate of one per site, anomalies are large scale interventions created in response to unusual or unique site conditions. The anomalies establish a pattern in their own right, a smaller system of the system itself, and are special conditions within the more generalized field of components. For example, large scale gathering spaces may be created at a regularly established interval or sporadically where needed or desired. The forms of the anomalies are driven by the context, however, some of its vocabulary may also be influenced by the system's aesthetics. Even though the anomalies are unique, they still share many of the characteristics and properties of the components.



Principles for Component Modification

The Components

McConnell [a real estate developer] made the mistake that others have made, the fatal presumption that this stretch of sand is a place to think big. On the contrary, those who have succeeded in Galveston are those who have learned to appreciate its limits. To paraphrase Colonel Moody [a robberbaron from a very prominent family], less is more for the rest of us (Cartwright 324).

The six components are the heart and soul of the system. As small interventions, each is scaled to the Seawall pedestrian, and therefore can be experienced directly. The scale of the components is similar to that of the Seawall's existing repetitive elements (lights, trashcans, cars, etc.) and completes the various levels of repetition in Galveston. The streets represent the largest repetitive element in the city, followed by the blocks. In between the scales of the blocks and the existing repetitive elements / components, are the patterns created by the components. These patterns, which are inherently repetitive, as well as repeat themselves along the Seawall, are a result of components which have accumulated into a "statement". The notion of a set of elements comprising a larger, more meaningful entity is also found in literature and film:

Words and frames occur singly, and accumulate into statements or movements. It is in their nature to divide experience and to present pieces of experience in sequence, trusting the act of apprehension to restore continuity. They make it necessary for us, and thus instruct us, to apprehend the present, a perfect continuum, as a series of instants (Kawin 153).

The Seawall itself is a 'perfect continuum', an uninterrupted space with nearly no innate modulation. In this space are the components, which can be described as the 'series of instants' pedestrians encounter and experience. Similar to unedited film, in which the individual frames have both meaning in isolation (as its own composition) and meaning in relation to other pieces of film, the components can function as a group or as individual units, both equally important.


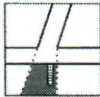










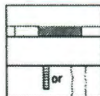
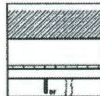










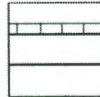






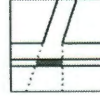



Like the repetitive circle and line elements in *Un Chien Andalou* and Warhol's icons, the components create a standardized kit of parts from which patterns of repetition develop (as the system is deployed). These patterns are of the utmost importance; they are the abstract repetitive orders which establish form through the build-up of repetitive components. Furthermore, the repetitive nature of the components and the linearity of the Seawall enables one to reflect upon an individual component in order to place it within the entire system, and thus comprehend the system itself.

The patterns created by the components do not have a regular pulse to them, and have varying degrees of concentration. Through overlapping, interweaving and intersection, the patterns and their components increase the density and registration of latent repetitive elements along the Seawall. Because the patterns' densities fluctuate depending on how the system is deployed, a correct balance of "implied density" is maintained. Essentially, this means that to establish density and modulation along the Seawall, it is not necessary to use a whole smattering of components, rather it is more important to "filter in" selected ones that provide the correct functions and relationships with the Seawall and context. As quoted above, less is more.

One of the key aspects of the system is that it allows for the modification of components so that variations are formed. These new components are therefore better able to adapt to their specific sites (see Modification and Creation of Component Variations). In response to specific site conditions, another variation of a component can occur called an *anomaly* (see General Rules for the System of Intervention).

The components are designed to establish a new reading of the Seawall. Besides providing density and modulation to make the Seawall a habitable space, the components strive to provide other basic necessities, such as food (concessions), shelter (from the intense Texas sun), and clothing (retail space). However, the components function in other ways as well, including emphasizing views and access to the beach and Gulf of Mexico, and creating nodes of activity along the linear space.

Suggestions are made for the functions of the components, but they are not fully programmed. This enables the components to be flexible, so that they can adapt to the city's and visitors' changing needs over time. Ultimately, the components function as infrastructural elements that the city of Galveston can deploy on an as-needed basis, or in successive phases. What follows is a description of each of the components, along with their properties and specific rules for implementation.

Component	Context	Size	Frequency
 Building	 →  or 		
 Seawall Structure	 → 		
 Screen	 or  →  or 		
 Shade Structure	 → 		
 Light Bollard & Paving	 →   → 		
 Street Number Paving	 → 		

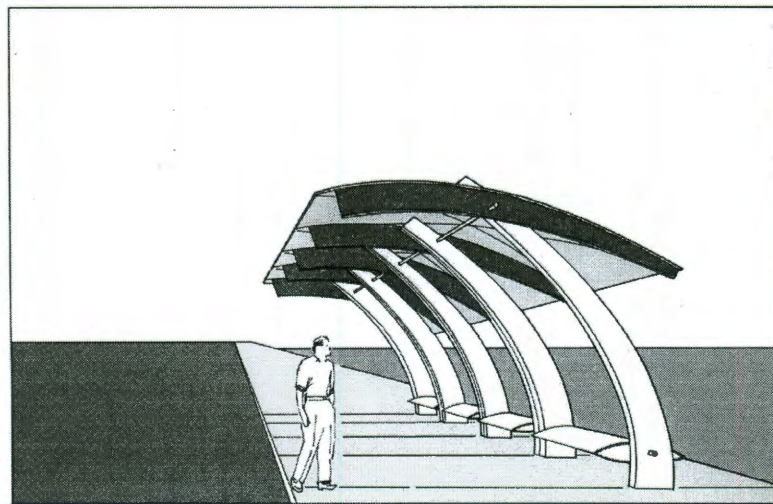
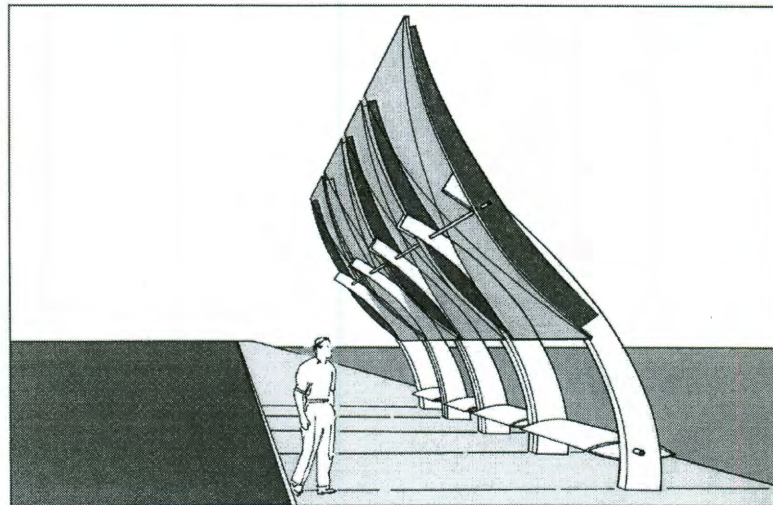
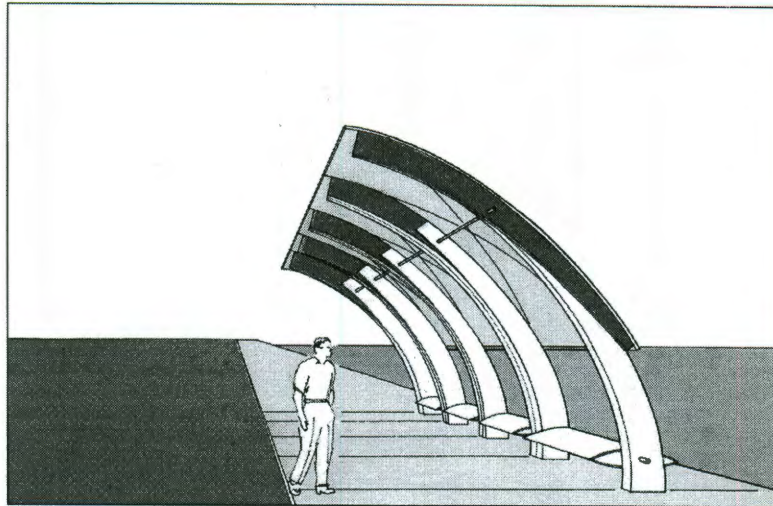
Rules for Component Deployment

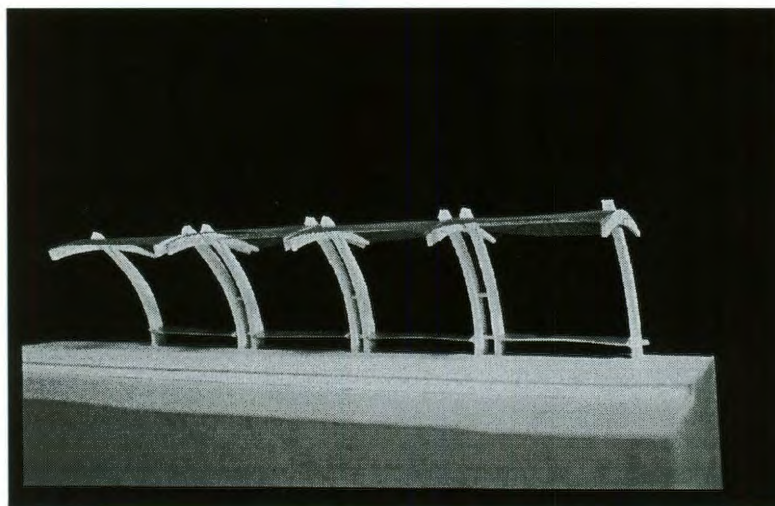
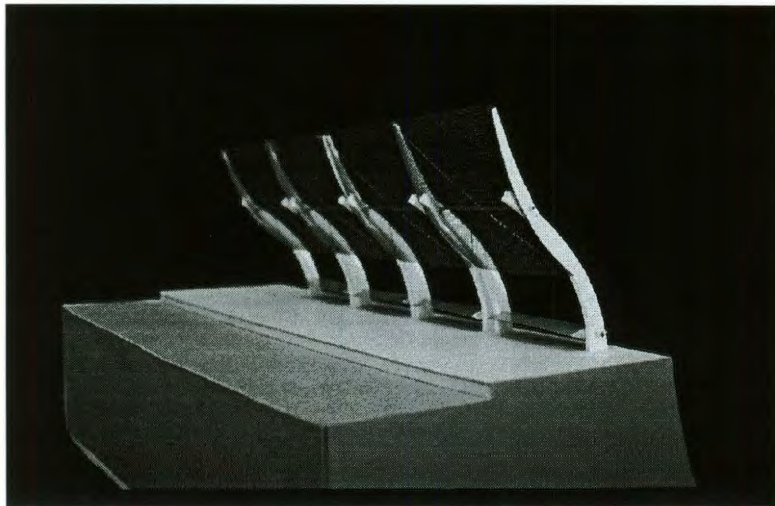
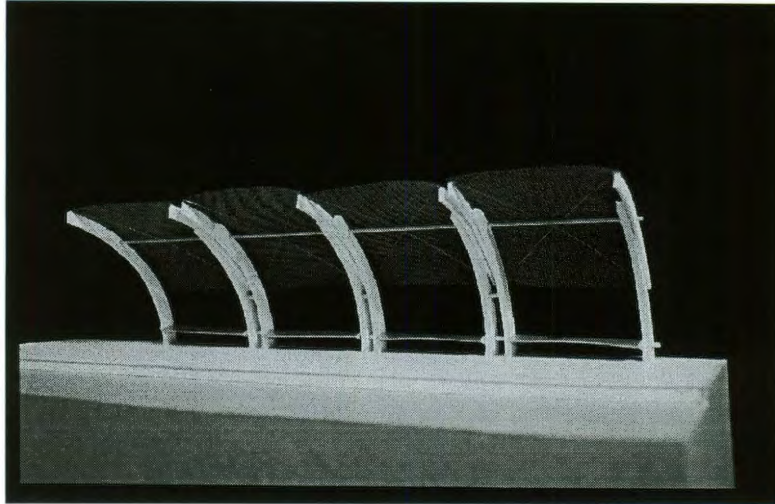
The Shade Structure:

depicted as green slanted lines or a green rectangle in the plan diagrams, and green curves in the section/elevation diagrams

The shade structure is initiated with any existing concrete bench. It starts ten feet from the bench, and extends in ten foot lengths to the nearest existing sign pole. Achieving a maximum overall length of one hundred feet, the shade structure provides shelter and a stop for trolleys or buses. It extends over the sidewalk and beach, and frames views of the Gulf of Mexico when one is sitting on its three foot wide bench.

The shade structure's design was influenced by palm trees residing in the area, whose fronds create a sheltering and shaded space underneath. The perforated mesh-like canopy, the "frond", has a 180 degree range of motion to mimic the natural movement of a tree. Each ten foot section operates either independently of one another or as a group, creating a dynamic sculptural piece. Three distinctive profiles can be made: one solid curve, a T-shape formation, or a very tall streamlined S shape. The canopy can be fixed in any of these configurations, or it can be allowed to rotate freely, depending on its context. For instance, the tallest "setting" may be employed either in an area where the small scale context would make it a highly visible monumental form, or where it is influenced by a large scale structure, like the Flagship Hotel.



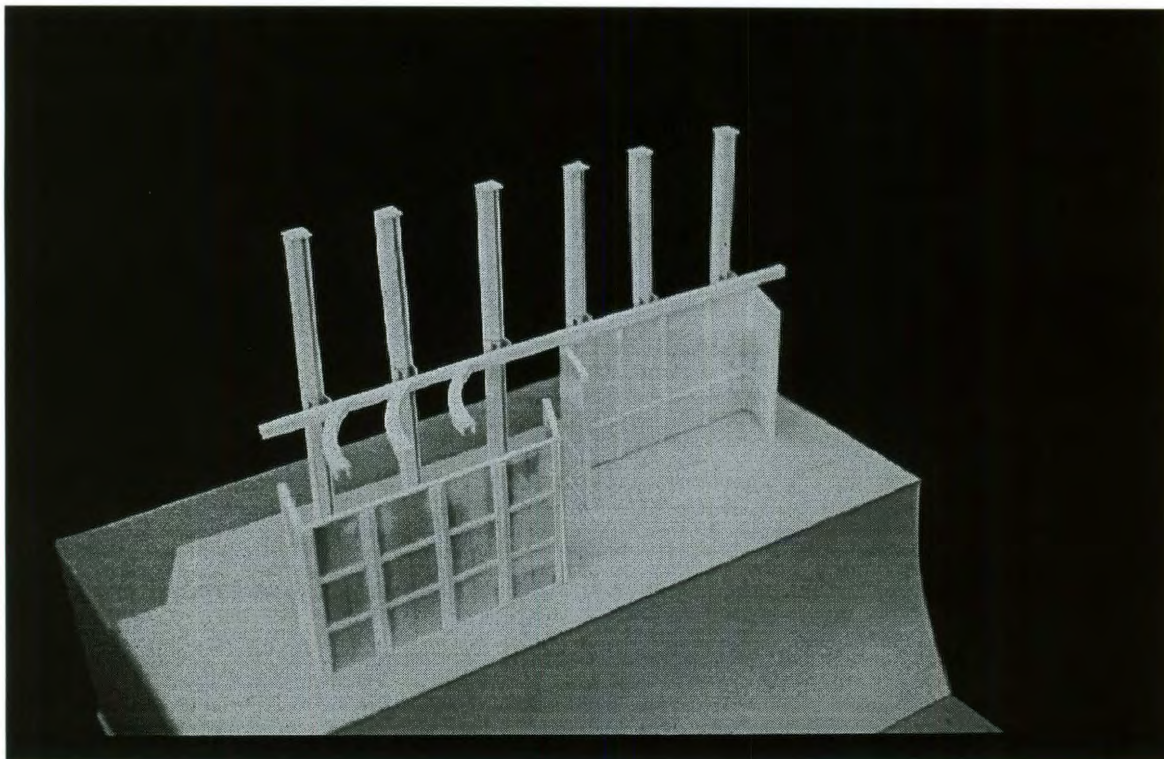


The Wall:

depicted as a purple rectangle in plan, a larger rectangle in section/elevation

The wall component occurs whenever there is an existing jetty or staircase at the beach level, and a no parking zone or an “empty” context at the Boulevard level above. An “empty” context can be described as an area that does not have any buildings or other built elements in the immediate vicinity. Therefore, the wall component establishes a new “context” — one based on the imagery of posted advertisements. Since the existing jetties and staircases are directional, repetitive elements that are perpendicular to the Seawall, the wall component serves as a focal point when traversing either of them.

Located on the street edge of the sidewalk, the wall component helps to control the flow of pedestrian traffic. Its panels, display advertisements, both during day and night with backlighting. Panels can also be removed to incorporate “plug-ins”: pay phones, change machines, vending machines, etc. which fit into the openings of the structure. At night, the wall component can be secured by rolling one half along the track to where it meets, and locks, with the other half. The track is supported by six columns, each of which are composed of four lighted bollards. These columns are in line with the light bollards and are set closer than the light bollards’ 20 foot interval. Therefore, the columns create concentrated segments in the bollard patterning. And even though the wall is not highly repeated, occurring only about twice on a site, its colorful and informative presence more than establishes itself as an interactive component.

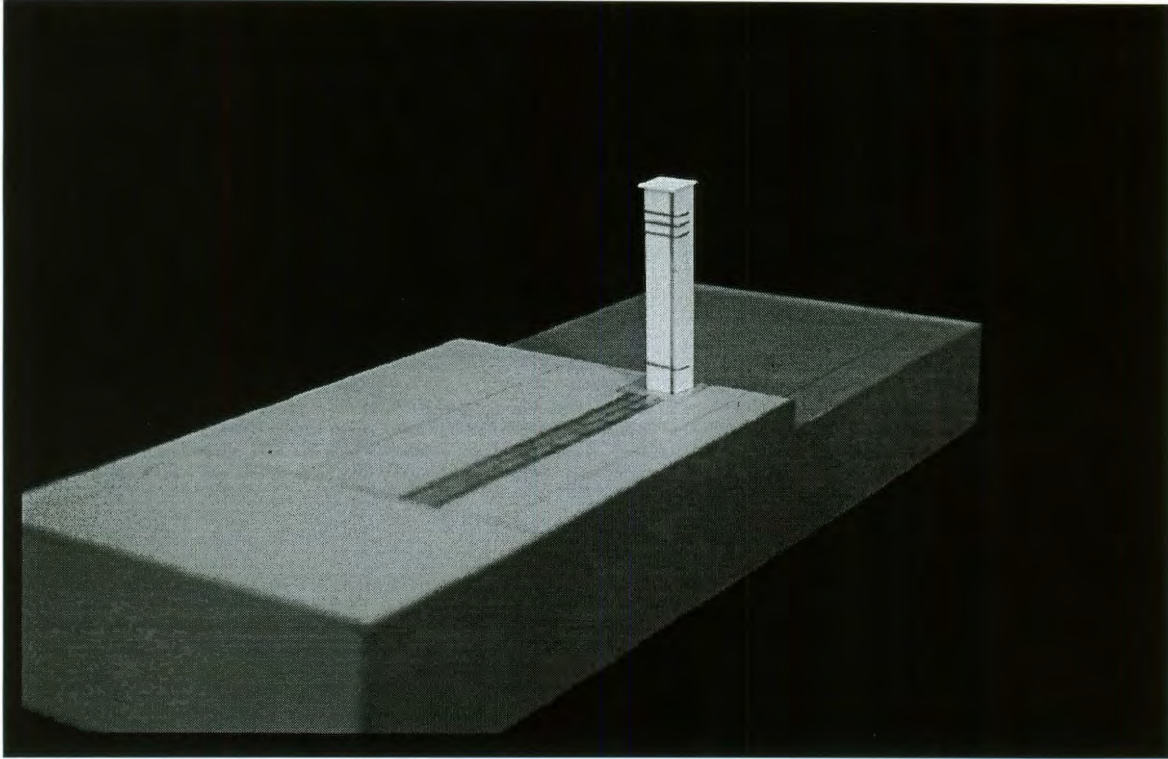


The Light Bollard and Paving Strip:

depicted as an adjoining yellow line and square or yellow rectangle in plan, a smaller yellow rectangle in section/elevation

The slender, five foot tall lighted bollards are located adjacent to existing parking spaces and can be converted to parking meters in the future. When viewing the Gulf from the north side (the building side) of Seawall Boulevard, the bollards become repetitive framing elements since they are approximately at eye level.

The bollards' accompanying paving strips are embedded into the sidewalk and coordinate with the street number paving. The paving strips extend approximately ten to twelve feet, perpendicular from the street edge of the sidewalk to the back edge of the Seawall face. However, if the paving falls in a zone created by a traffic intersection, it is angled to address the presence of the "extended" street. Not only do the bollards and paving demarcate the parking spaces, but they illuminate the edge of the sidewalk / Seawall, providing much needed nighttime lighting pedestrians. The paving strips work in conjunction with the street number paving and add to the variety and rhythm of the sidewalk surface, since they repeat every 20 feet, the length of a parking space. The bollards also repeat at this interval, which is exactly one-third of the length of a Seawall section.

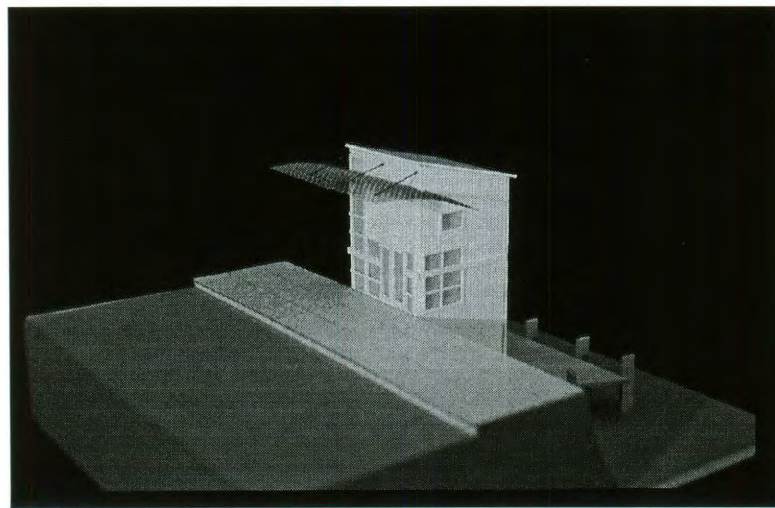
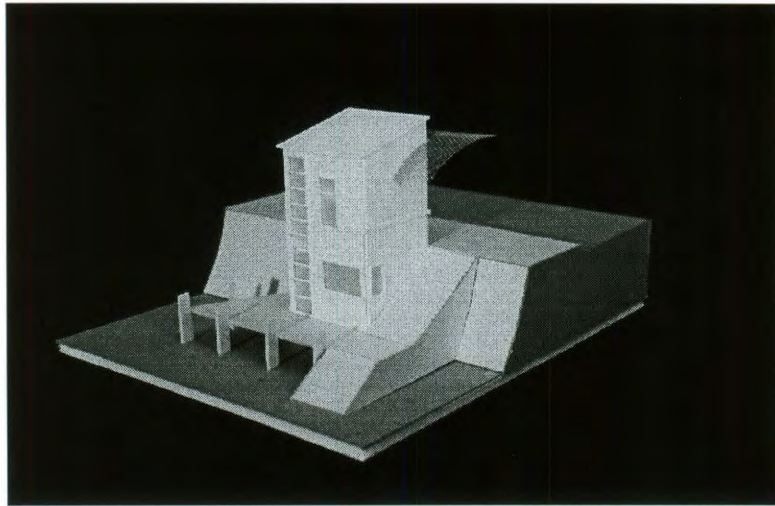
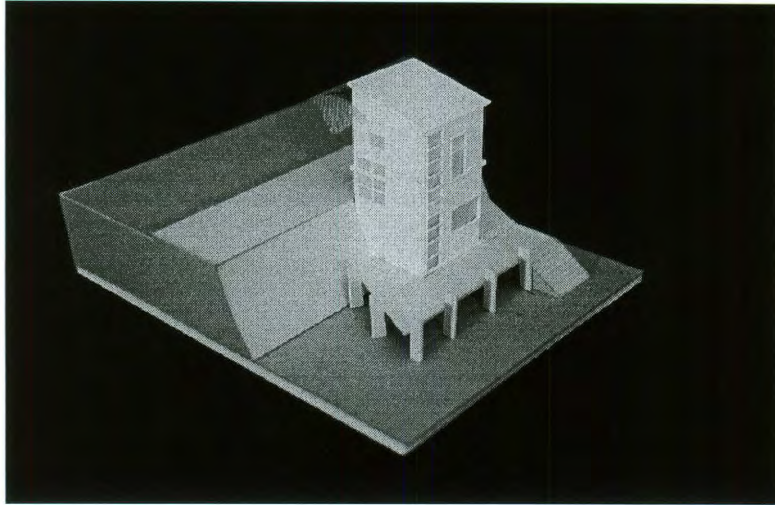


The Building:

depicted as a red square in plan, a red rectangle in section/elevation

Whenever an existing staircase falls within a traffic intersection, a building is placed either to the east or west of the stair. The building is approximately three stories tall, with two of those stories projecting above the surface of the sidewalk. Its presence within the intersection serves as a focal point for the angled, numbered street. The building is one of the more frequently occurring components and from the beach, serves to visually unite the built environment at the street level above with the natural environment at its base. Another transition space is defined by the building; a deck that wraps around and attaches to the staircase.

Although not programmatically defined, the building can house a variety of functions: public changing facilities and restrooms, office space, visitor information, concessions, retail space, or a lifeguard station. The aesthetic of the building is influenced by wharf warehouses and the pier buildings located around 22nd Street.



The Kiosk:

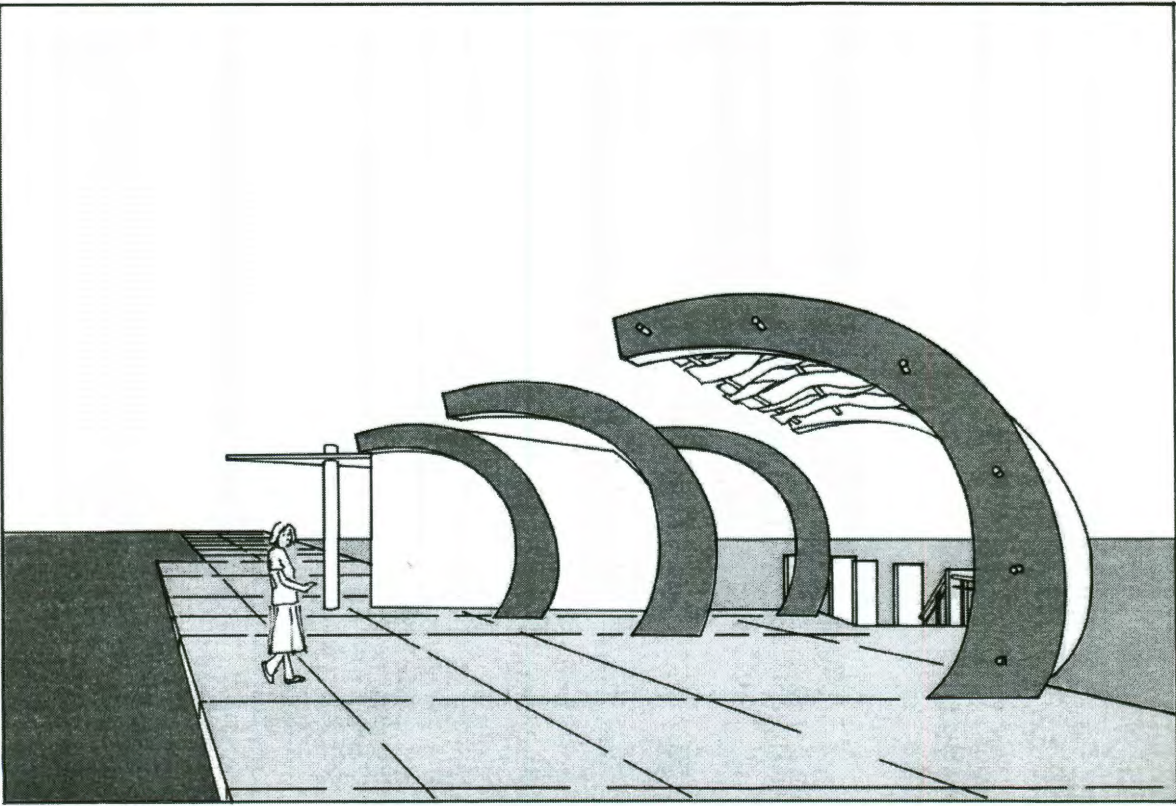
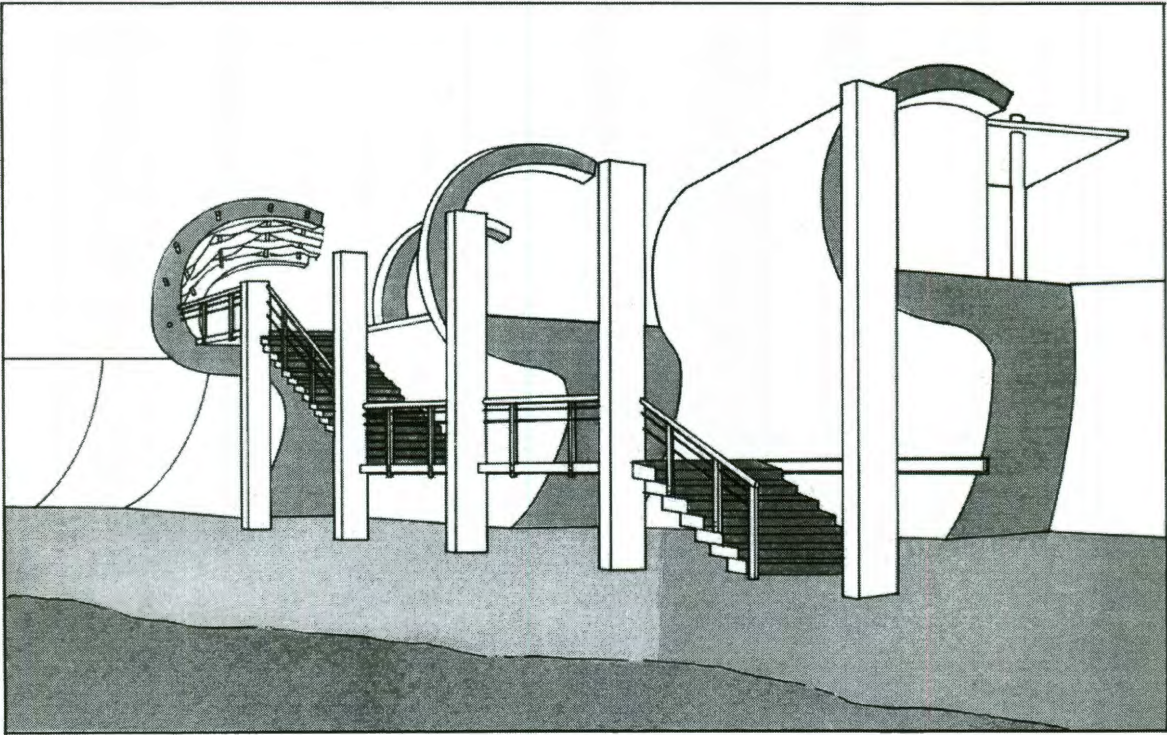
depicted as a blue rectangle in plan, a blue "C" in section/elevation

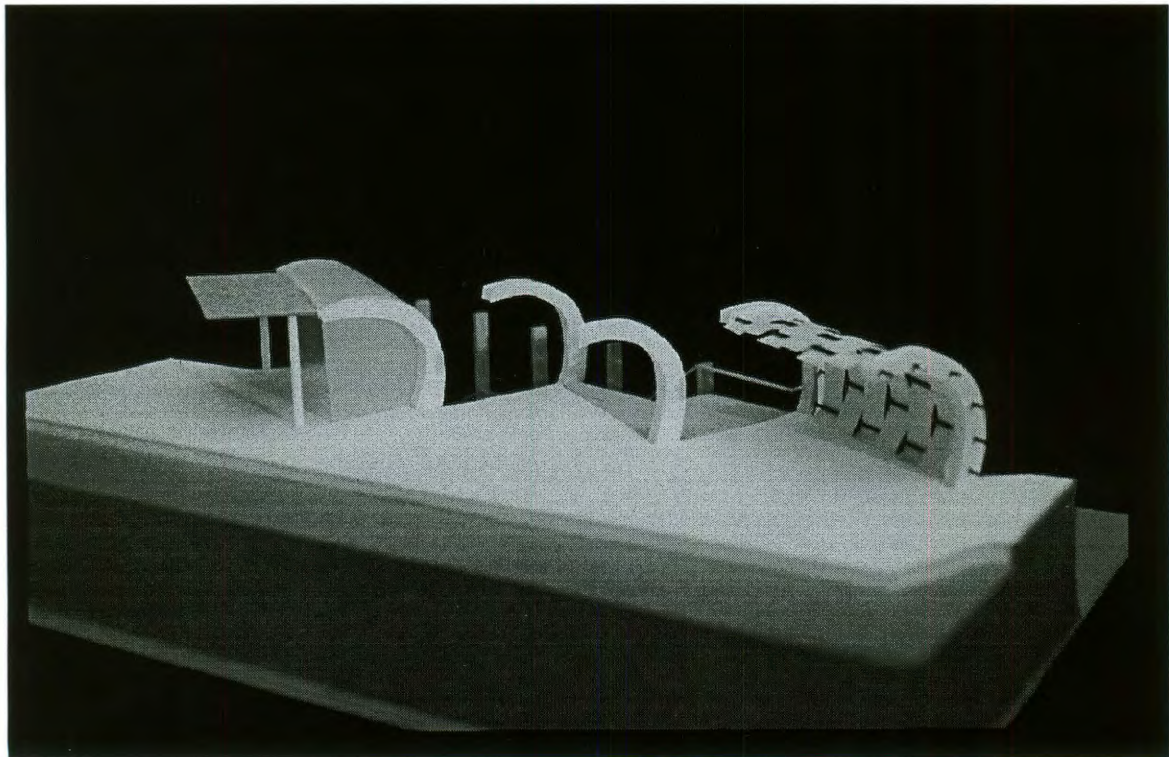
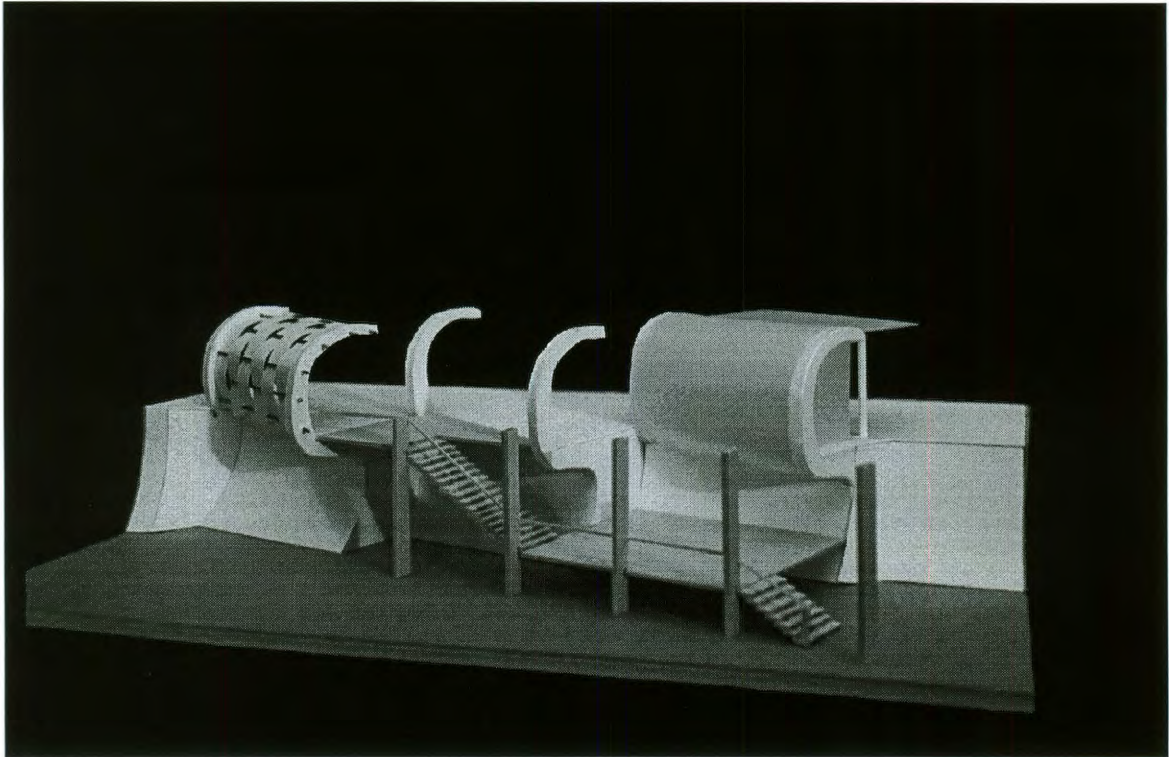
The kiosk and its accompanying expanded sidewalk are implemented within the zone created by the boundaries of numbered streets which have been "extended" to the Seawall. A minimum of three kiosks must be deployed and a maximum of ten in one grouping/occurrence. Each kiosk is 30 feet long — one-half of the length of a Seawall section. The kiosk's concrete construction is similar to that originally used for the Seawall. Each kiosk is composed of two large curvilinear sections which replace the existing Seawall sections; therefore two kiosks, or four structural sections, occupy the same amount of space as an original 60 foot Seawall segment. The twelve feet tall structural sections are set at an angle to the Seawall to continue the fabric of Galveston's grid. Visitor's views of the beach are framed by the kiosks, and because the structural sections are set at an angle to the Seawall, a long expanse of beach is viewed, not the short depth perceived when viewing the Gulf perpendicular to the beach. Access to the beach, via an attached staircase and deck, is permitted through the framing structural arms.

In between the two sections, a "platform" is created that actually expands the sidewalk underneath of the forms. The sectional forms, the "arms", are influenced by cresting waves and forms worn smooth through time by water. At the beach level, the angled kiosks create an undulation in the surface of the original Seawall. This patterning, formed by the repetitive kiosks, is likened to a powerful wave crashing into the Seawall, which leaves it scarred and fragmented.

The grouping of kiosks provide a node of activity along the linear procession. The kiosks provide both temporary and permanent functions. Possible programs include: farmers' market stalls, craft exhibition, concessions, bike rentals, changing and restroom facilities, city storage, cafe, or retail space. The kiosks have permanent structural arms into which infill construction or panels can be inserted. For instance, the kiosk's arms can be filled in with a permanent type of construction for long term use, or can be woven with a lightweight fabric for short term or weekend use. In both cases, the repetitive arms remain curvilinear sculptural objects rising above the Seawall.

Strips of paving, which match the ones used to demarcate parking spaces, are used in the same twenty foot interval. Because the sidewalk has been expanded in front of the kiosks and has therefore covered the existing parking spaces, the paving is used in recognition of the "absent" parking spaces.

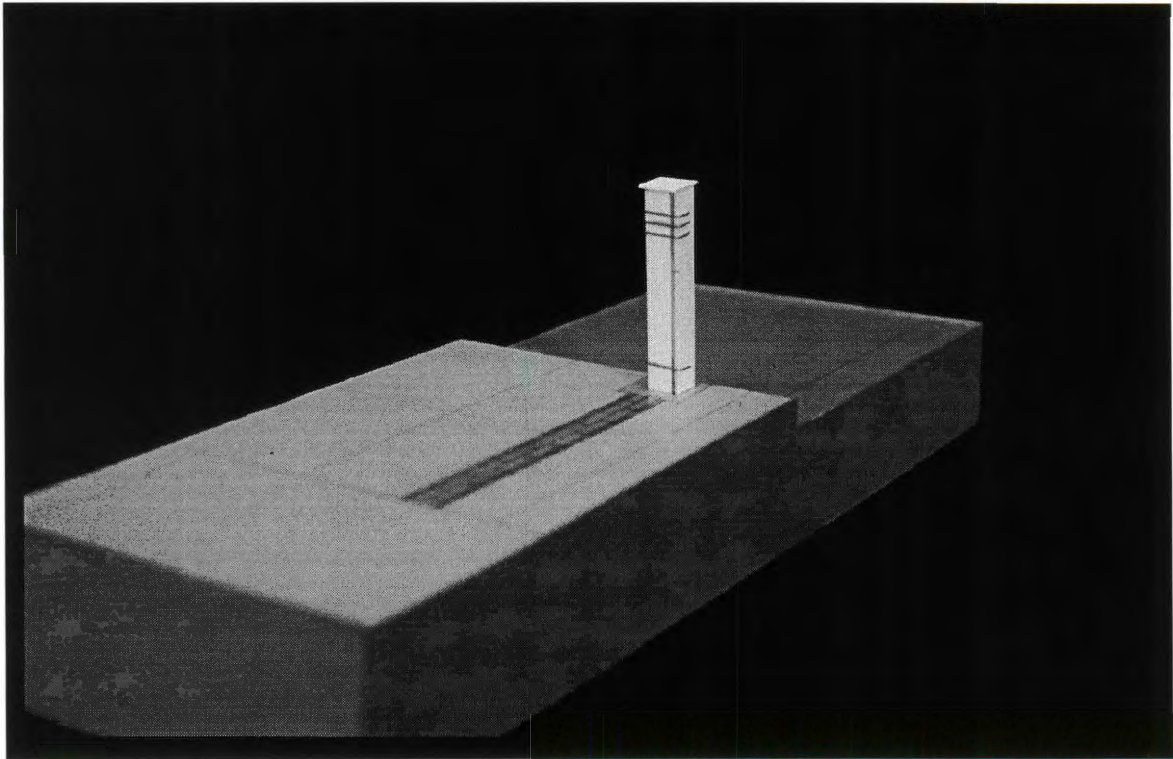




The Street Number Paving:

depicted as a black square in plan, a black rectangle in section/elevation

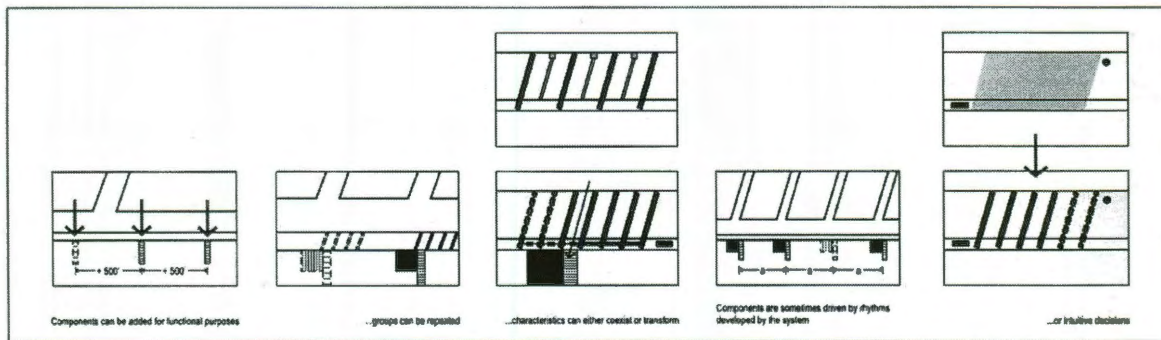
The glazed tile street number paving is embedded into the sidewalk at the points where numbered streets extend “through” the boulevard to the Seawall. The paving creates visual references along the Seawall, and marks distances useful for recreationalists or locating cars. The repetitive paving assists in transposing the large scale module of the city grid onto the pedestrian-scale sidewalk of the Seawall.



Modification and Creation of Component Variations

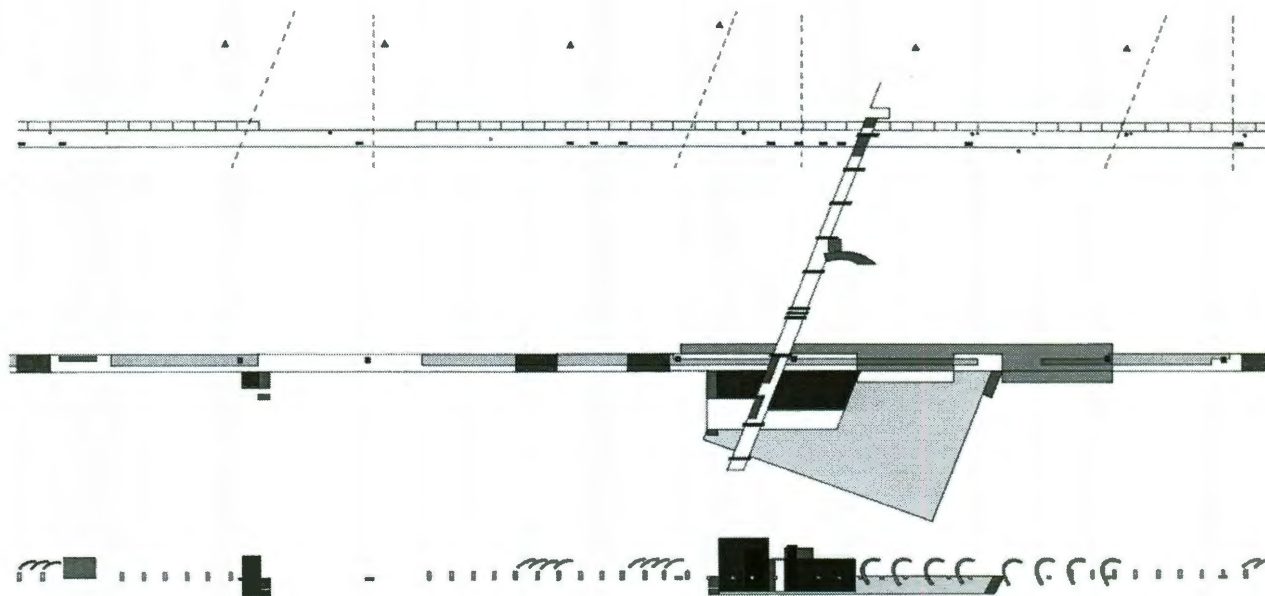
The five general rules for the proposed system of intervention, discussed earlier, also serve as the principles for component modification. Each part of a component is an generative element which can form alternative components. These new variations of components are the result of a series of transformations inherent in the system. Through these variations, any component can be further developed for its specific site. The creation of variations also extends the vocabulary of the existing “kit of parts” and therefore, creates the possibility for exciting new patterns to develop — ones that will overlap, intersect, and interweave to provide interesting spaces along the Seawall.

In the diagram, C represents a building component and its adjacent, existing staircase in plan view. The first step in the transformation process it undergoes is the notion that, upon meeting another component, the two components’ properties and characteristics can either coexist or be compromised. In this instance, the building and the staircase encounter a shade structure which, based on its properties, is in the process of extending to the nearest existing sign post. When the building/ staircase and shade structure meet, the result is that the shade structure is “cut off” and terminates at the building face. This new grouping is represented in the diagram as C’. C’ continues to undergo the transformation process. In the next step, C’ (the grouping) is replicated, because the principle states that “groups can be repeated”. This resultant of this stage is Cⁿ; two new components comprised of a building, staircase, and attached shade structure. At this point, Cⁿ (and the other components in general) can continue to change through an infinite number of transformations.

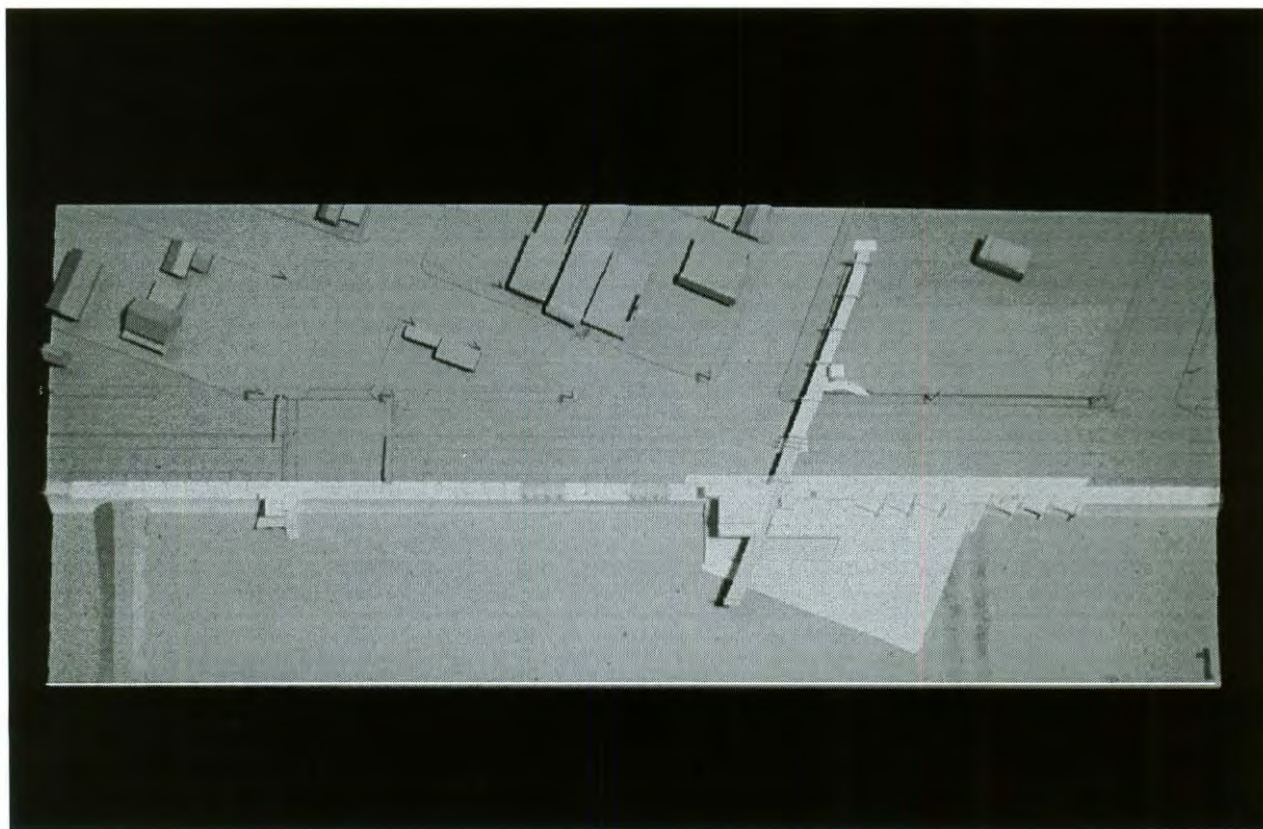


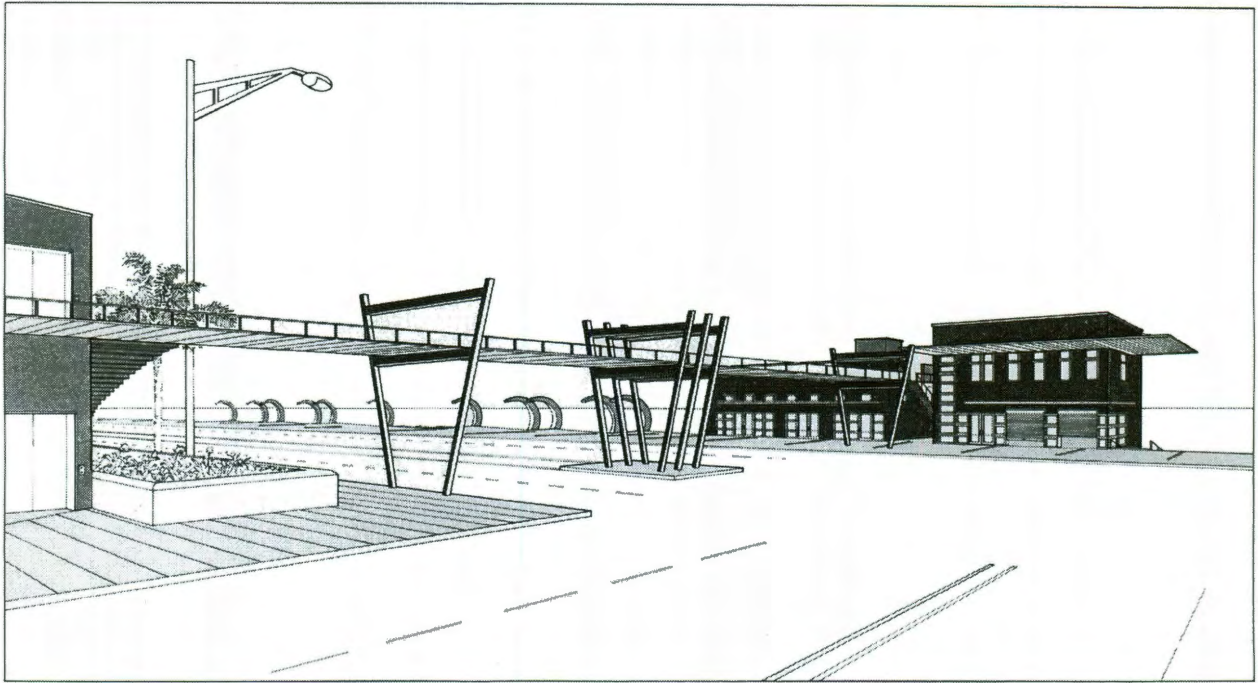
Principles for Component Modification

The Sites of Intervention

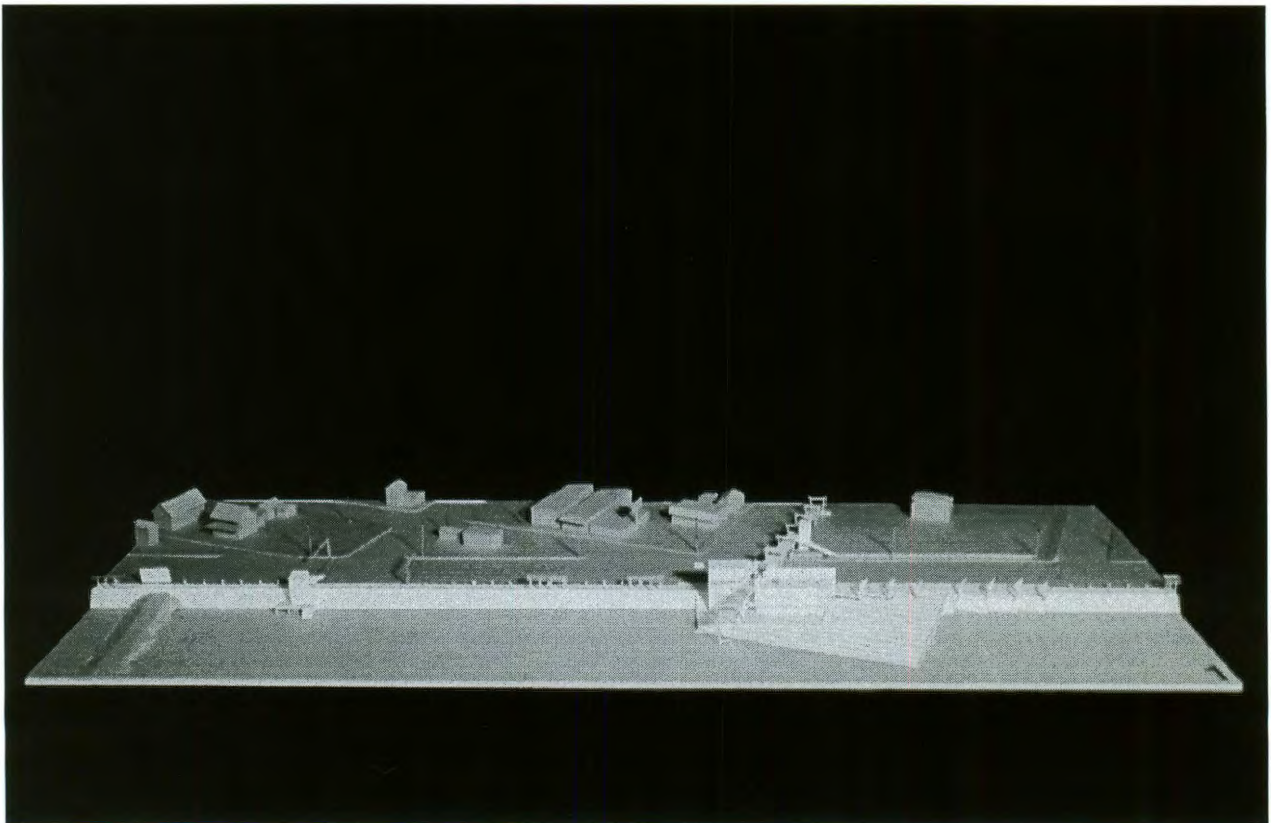


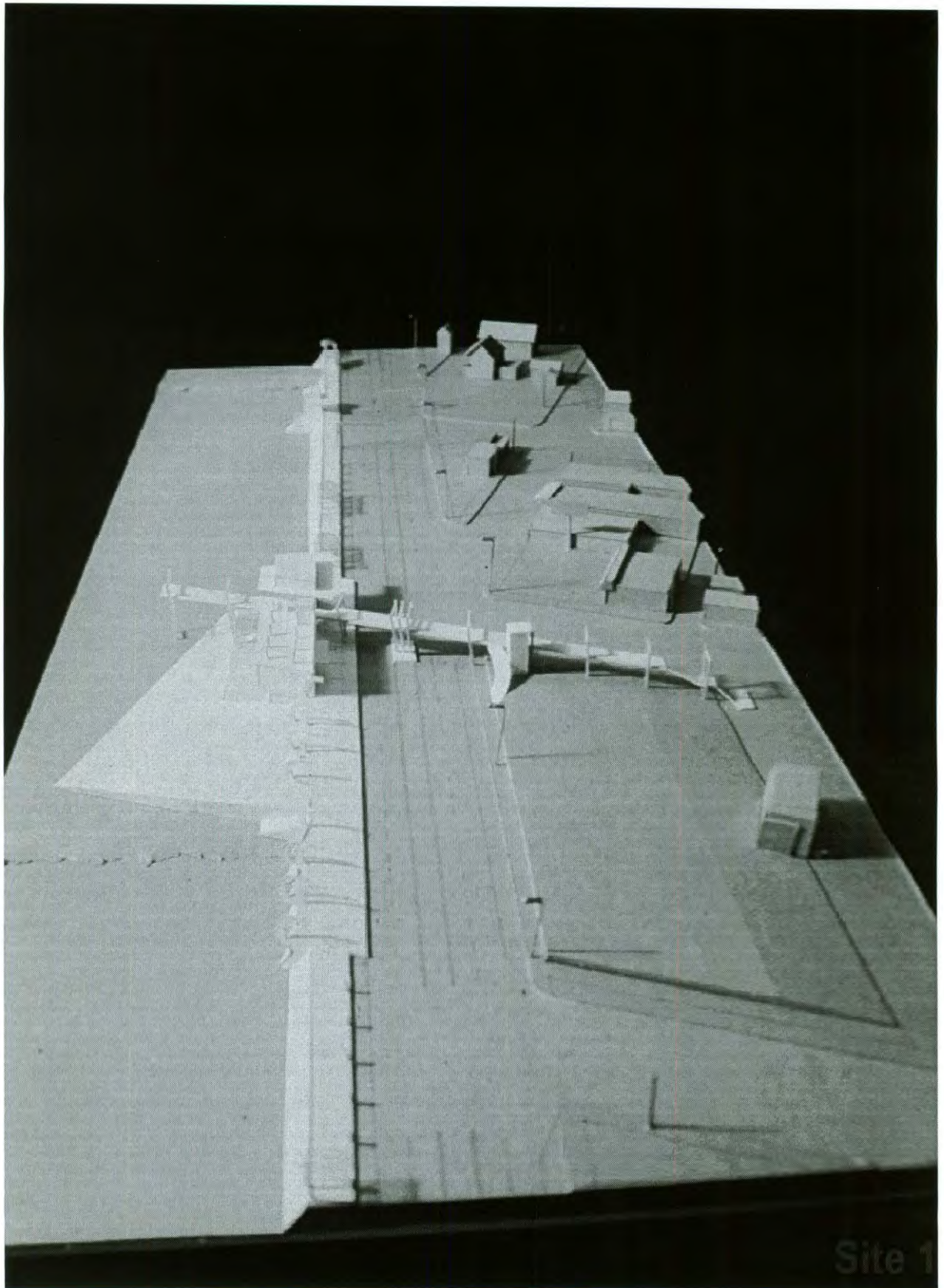
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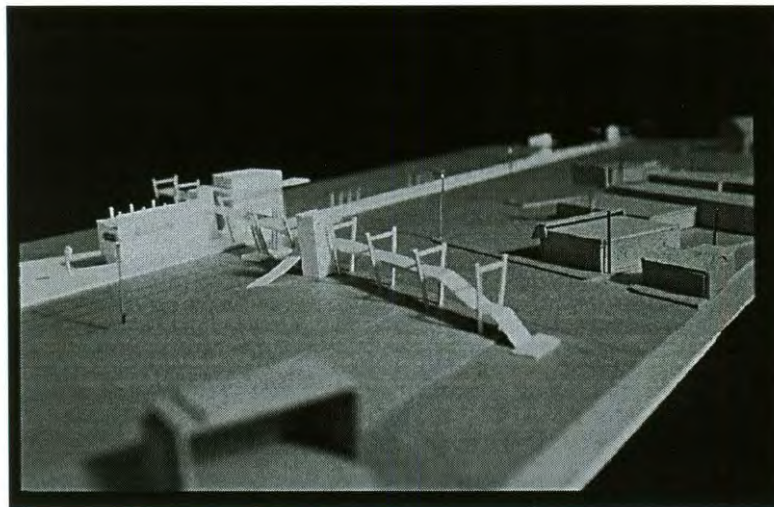
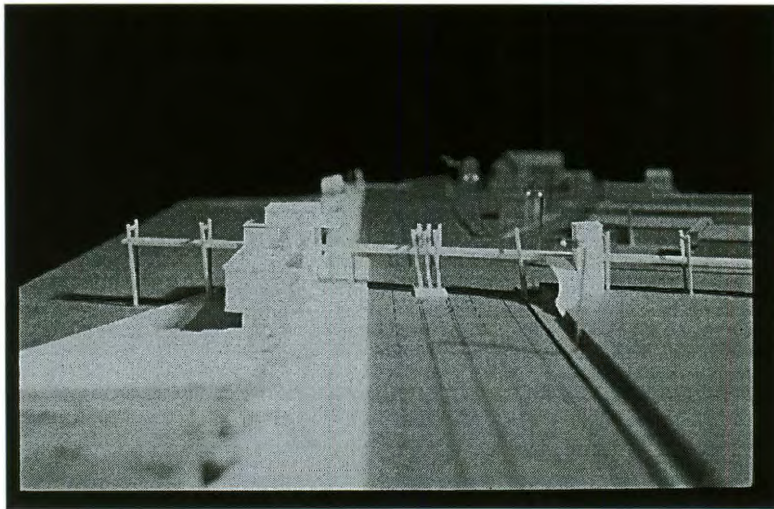
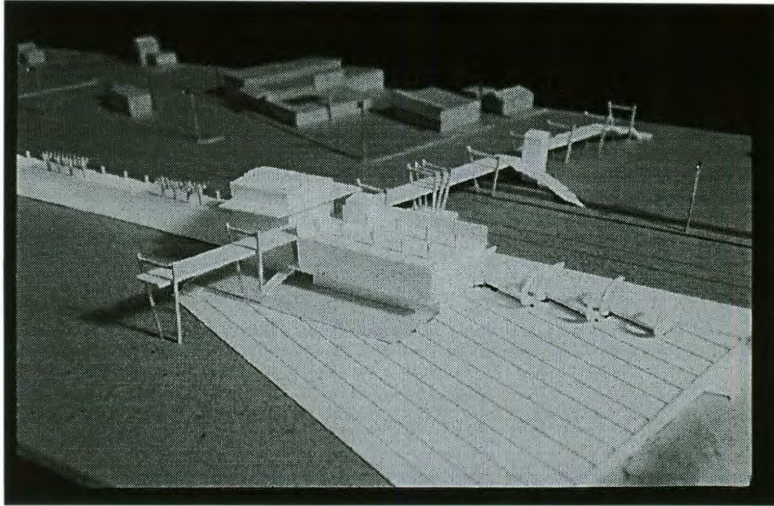


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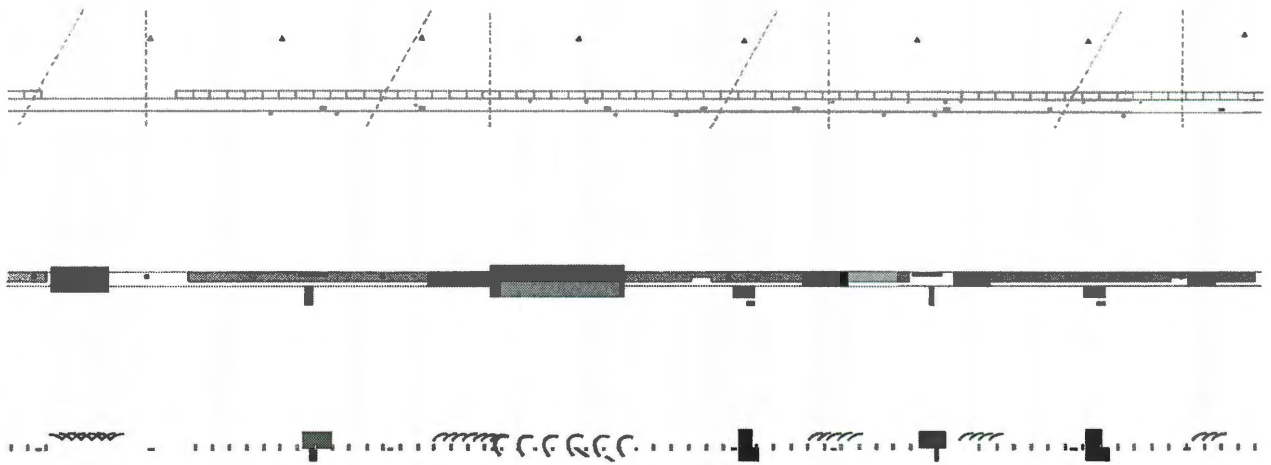




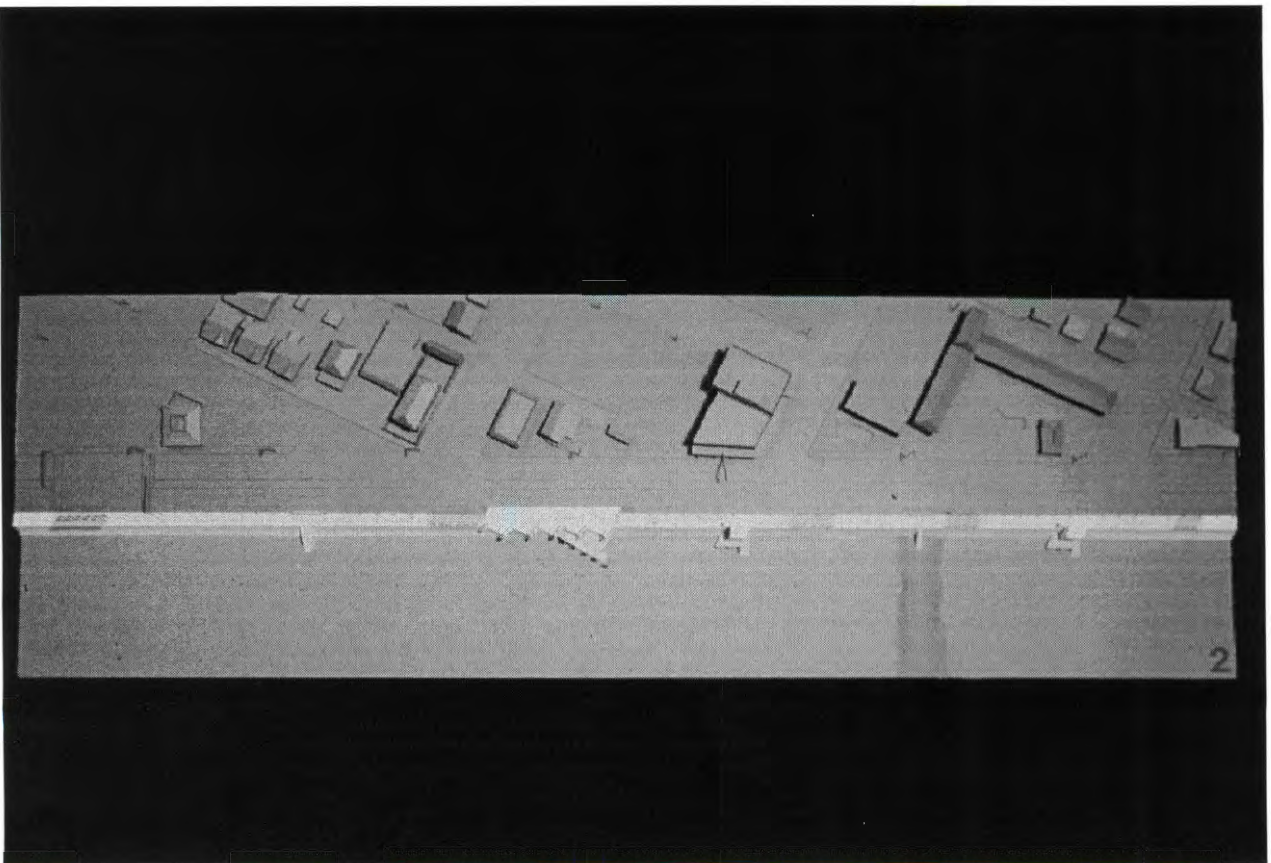
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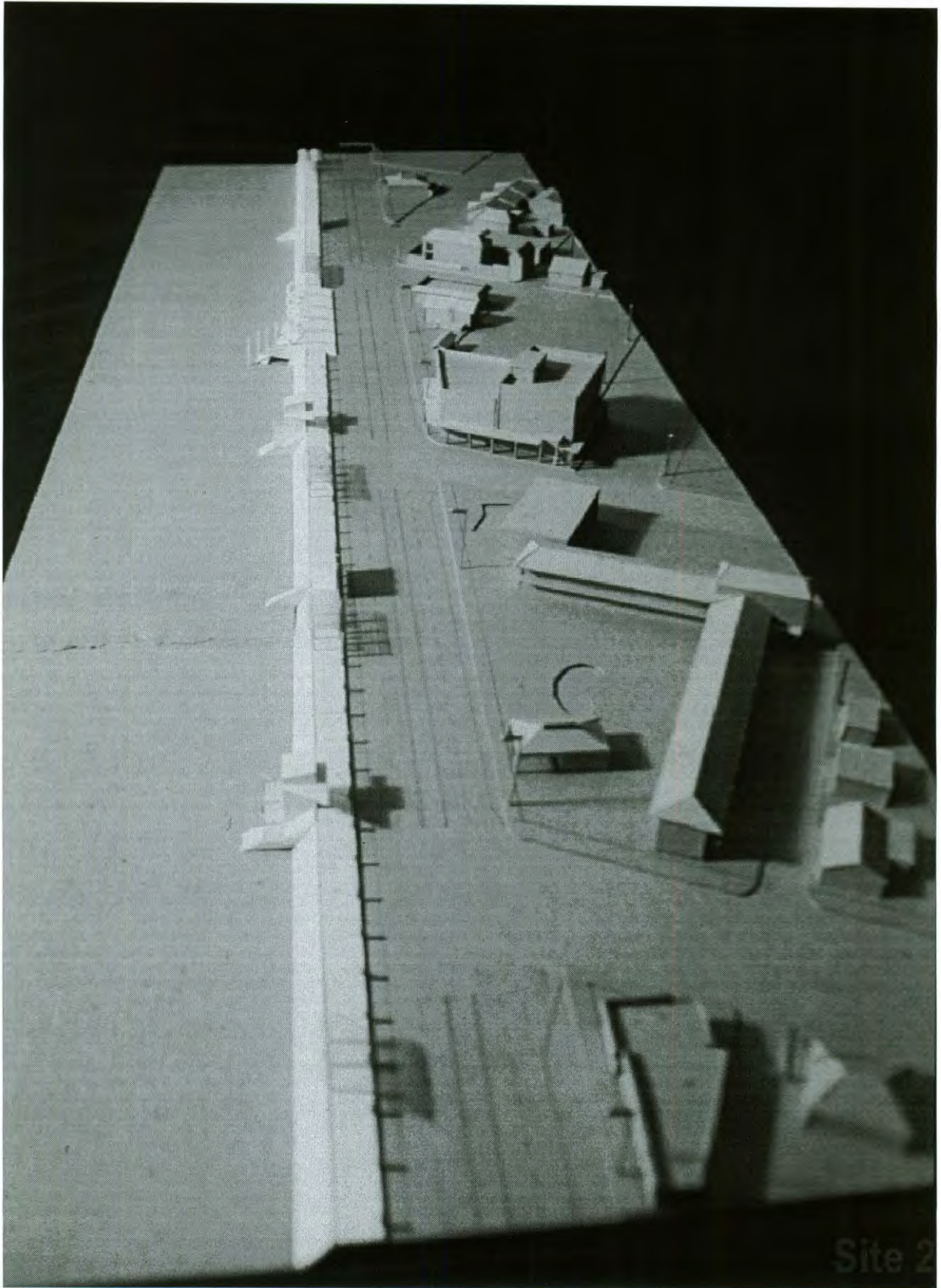


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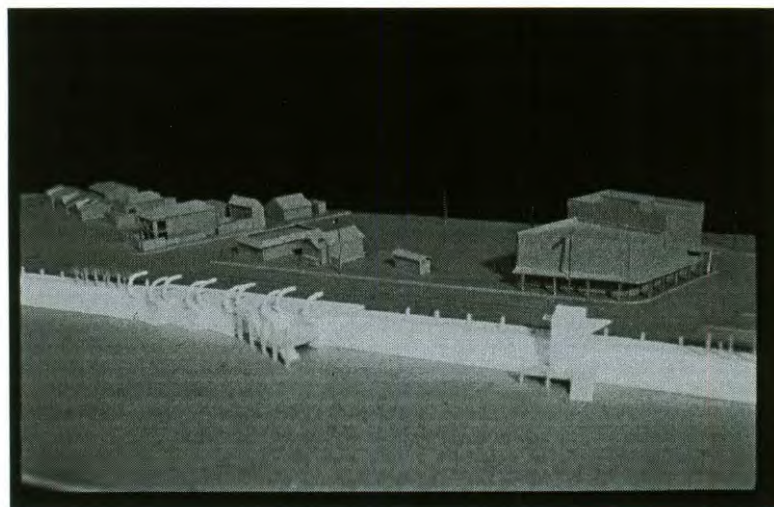
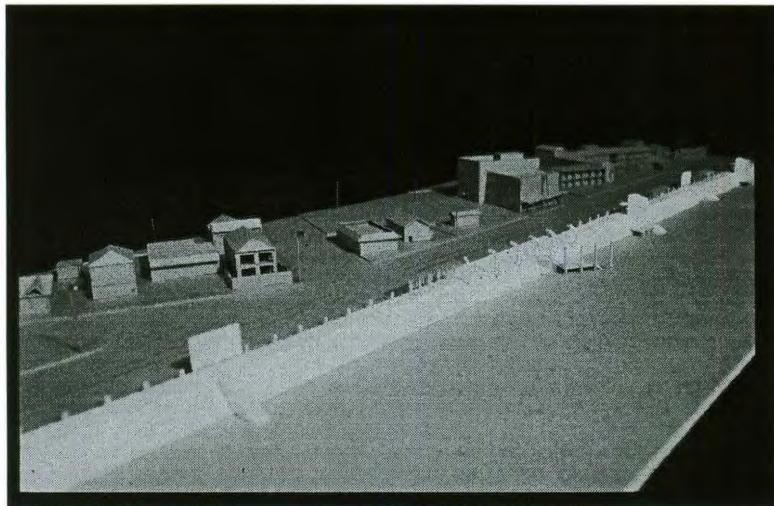
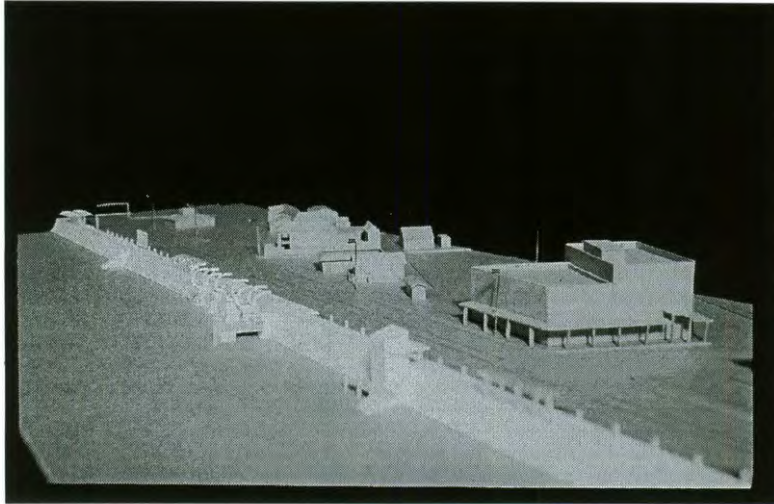


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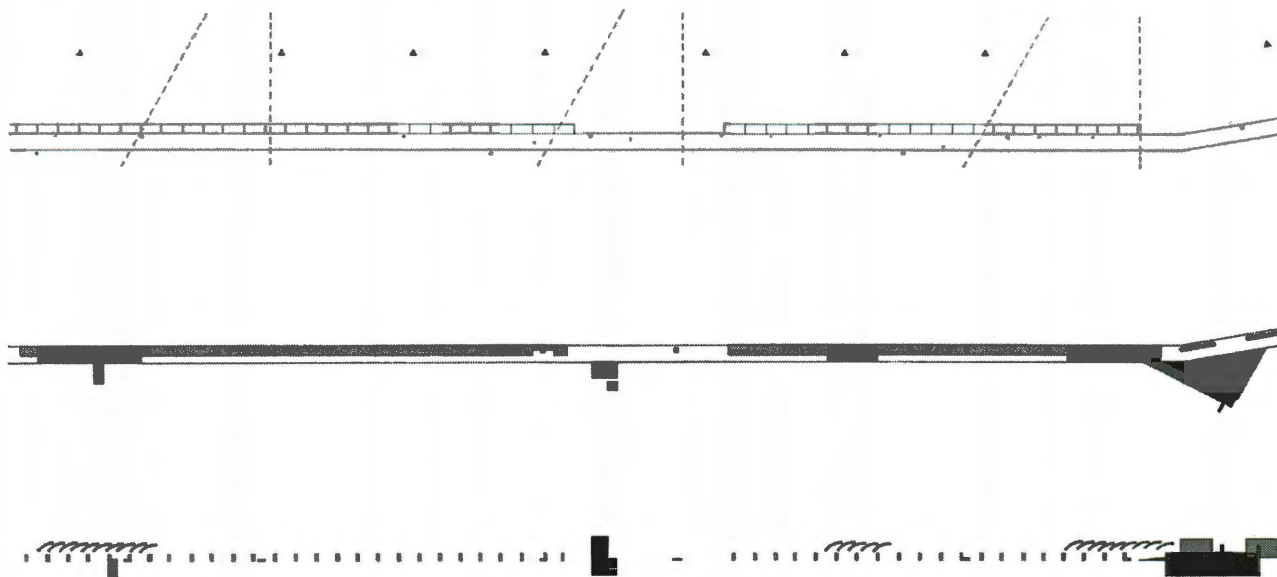




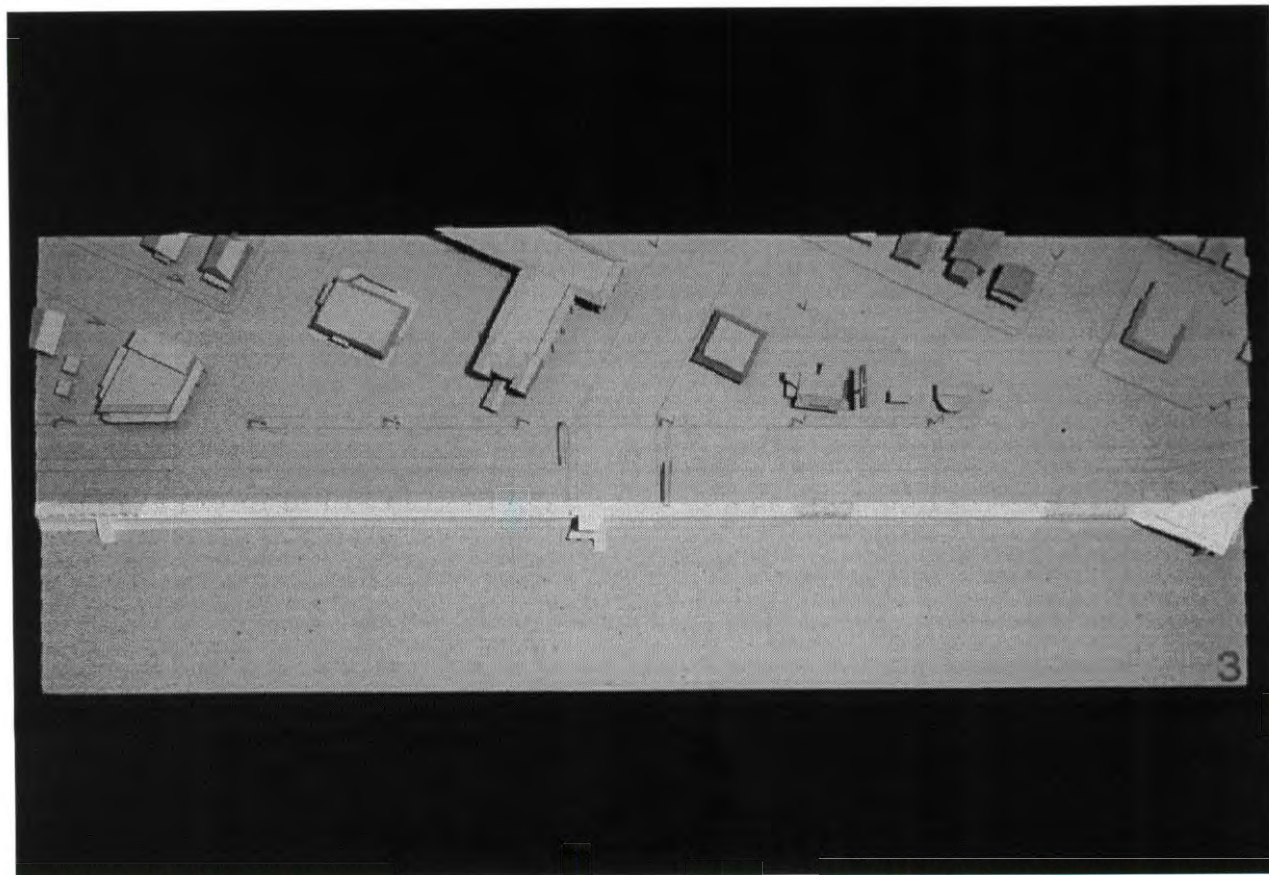
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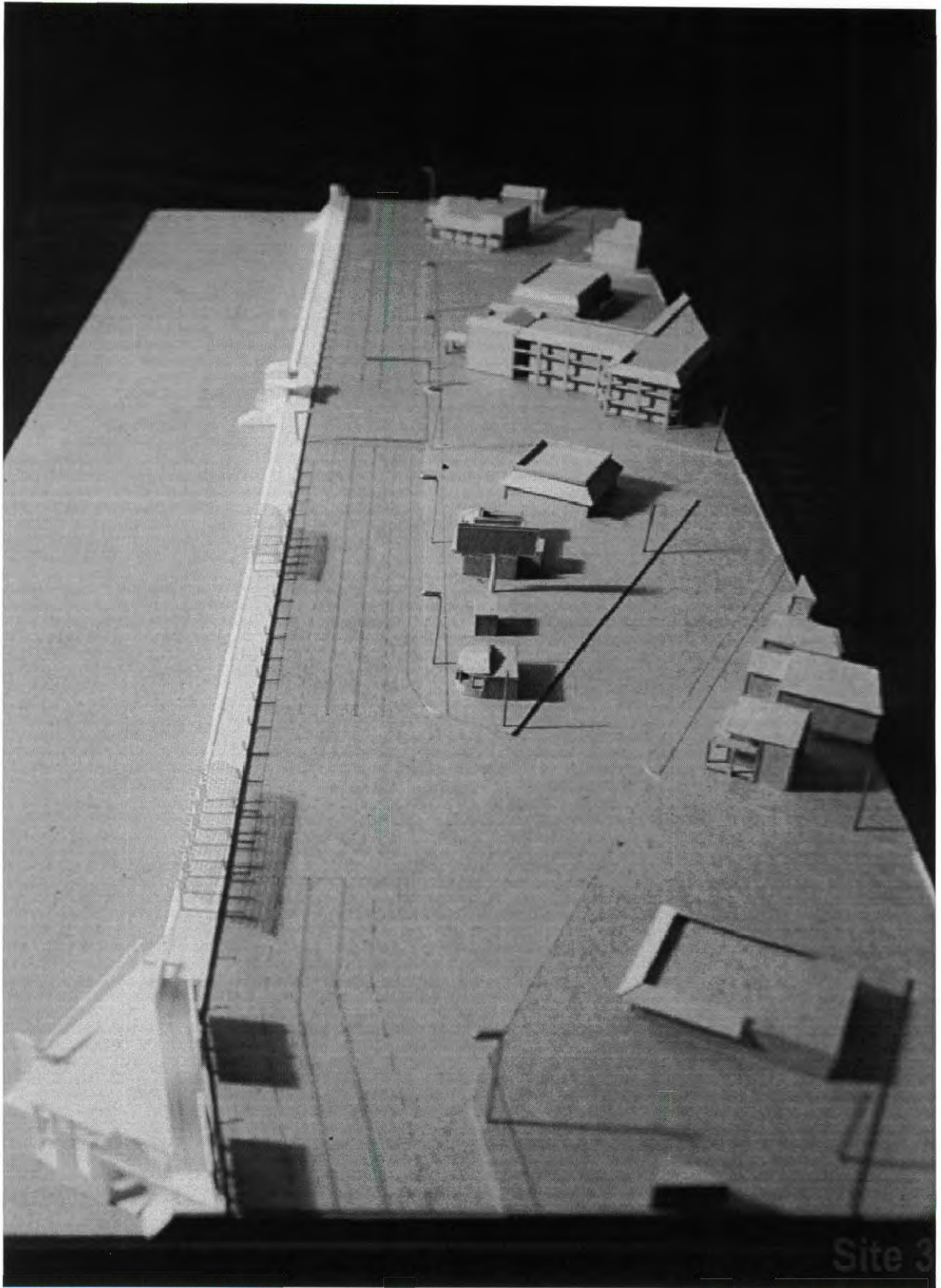


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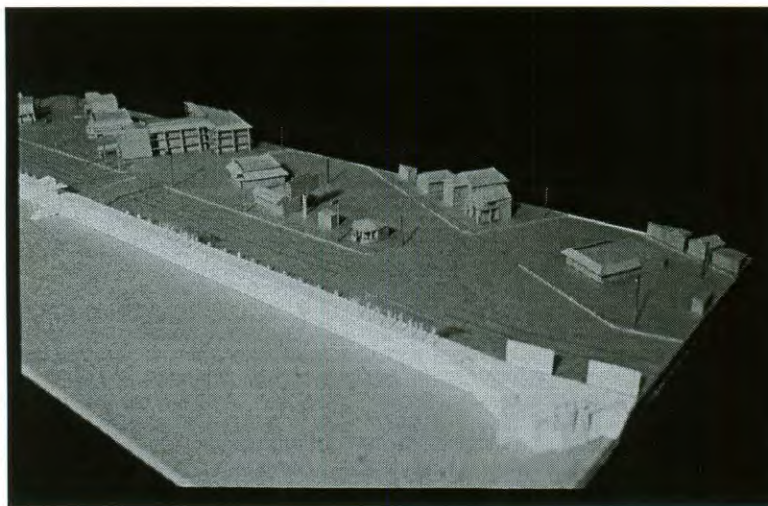
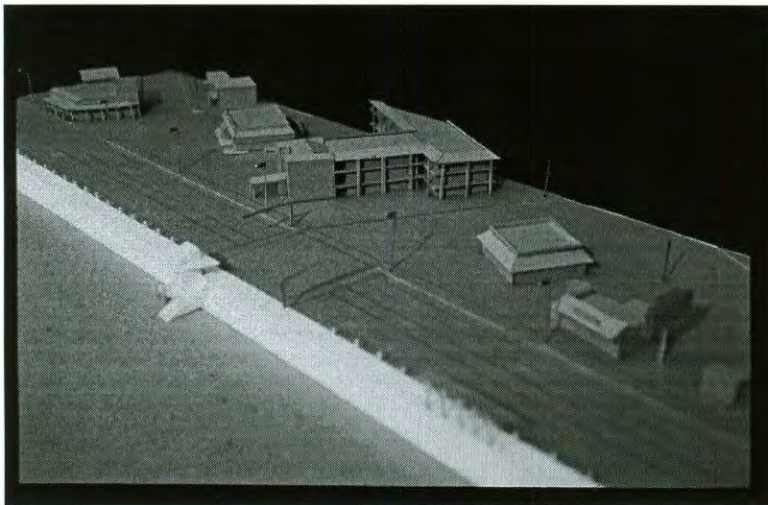
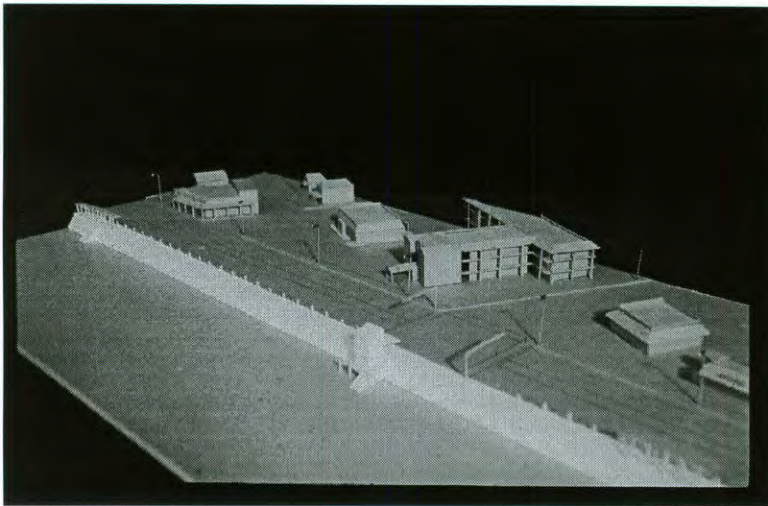


Site 3





Site 3



Site 3

Bibliography

Benjamin, Walter. *Art in the Age of Mechanical Reproduction in Illuminations*. Schocken Books. New York, New York. 1968.

Bobker, Lee R. *Elements of Film*. Harcourt Brace and World, Inc. New York, New York. 1969.

Cartwright, Gary. *Galveston: A History of the Island*. Macmillan Publishing Company. New York, New York. 1991.

Davis, Albert B. Jr. *Galveston's Bulwark Against the Sea: History of Galveston Seawall*. Paper presented at the Second Annual Conference on Coastal Engineering. Houston, Texas. November 1951.

Gidal, Peter. *Andy Warhol: Films and Paintings*. E. P. Dutton and Co. New York, New York. 1971.

Henck, Harold K. *Discovering Galveston's County's Past: Images II*. D-Books Publishing. Marceline, Missouri. 1994

_____. *Images of Galveston County, Texas 1838-1992*. D-Books Publishing. Marceline, Missouri. 1992

Kawin, Bruce F. *Telling it Again and Again*. Cornell University Press. Ithaca, New York. 1972.

Kinder, Marsha and Houston, Beverle. *Close-Up: A Critical Perspective on Film*. Harcourt Brace Javanovich, Inc. Chicago, Illinois. 1972.

Kubelka, Peter. *The Theory of Metrical Film in The Avant-Garde Film: A Reader of Theory and Criticism*. New York University Press. New York, New York. 1978.

Lawder, Standish D. *The Cubist Cinema*. New York University Press. New York. 1975.

Mast, Gerald. *Film/Cinema/Movie: A Theory of Experience*. The University of Chicago Press. Chicago, Illinois. 1983.

McComb, David G. *Galveston: A History*. University of Texas Press. Austin, Texas. 1986.

Morphet, Richard. *Andy Warhol in Warhol*. Tate Gallery Publications Department / The Curwen Press Limited, London. 1971.

Nesbitt, Bob. *Bob's Galveston Island*. Texas Reader. Galveston, Texas. 1985 Edition.